

## Dr.-Ing. habil. Siddhartha Bhattacharyya, *FIET (UK), FRSA (UK)*

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CONTACT INFORMATION	VSB Technical University of Ostrava Ostrava Czech Republic Europe	Voice: (91) 9830354195 E-mail: dr.siddhartha.bhattacharyya@gmail.com WWW: <a href="http://drsiddhartha.net/">http://drsiddhartha.net/</a>
DATE OF BIRTH	21 <sup>st</sup> February, 1975	
RESEARCH INTERESTS	Soft computing, pattern recognition, image processing, multimedia information retrieval, quantum computing, portfolio optimization, social networks	
EDUCATION	<b>Faculty of Electrical Engineering and Computer Science, VSB Technical University of Ostrava, Ostrava, Czech Republic</b> Habilitation Treatise, Computer Science, 2023 <ul style="list-style-type: none"><li>• Dissertation Topic: <b>On Quantum Inspired Intelligent Data and Image Analysis</b></li></ul> <b>Maulana Abul Kalam Azad University of Technology, Kolkata, India</b> Three months Certificate Program in Intellectual Property Rights and Technology Business Management, 2022 <b>Faculty of Electrical Engineering and Computer Science, VSB Technical University of Ostrava, Ostrava, Czech Republic</b> Post-Doctoral Stay as Senior Research Scientist <b>2<sup>nd</sup> October, 2018 - 1<sup>st</sup> April, 2019</b> <b>Jadavpur University, Kolkata, India</b> PhD. (Engg.), Computer Science & Engineering, 2008 <ul style="list-style-type: none"><li>• Dissertation Topic: <b>Object Extraction In A Soft Computing Framework</b></li></ul> <b>University of Calcutta, Kolkata, India</b> Master of Technology, Optics & Optoelectronics, 2000 <b>University of Calcutta, Kolkata, India</b> Bachelor of Technology, Optics & Optoelectronics, 1998 <b>University of Calcutta, Kolkata, India</b> Bachelor of Science, Physics (Honours), 1995	
ACADEMIC EXPERIENCE	<b>VSB Technical University of Ostrava, CZECH REPUBLIC</b> <i>Senior Researcher and Visiting Professor</i> <b>16<sup>th</sup> January, 2024 - Till Date</b> Tenure track assignment in the research project titled <b>Research Excellence For Region Sustainability and high-tech Industries</b> <b>Algebra University, Zagreb, CROATIA</b> <i>Scientific Advisor</i> <b>1<sup>st</sup> October, 2022 - Till Date</b> Advising faculty members and researchers towards attaining research excellence. <b>Indian Institute of Information Technology Kalyani, Kalyani, INDIA</b>	

*Visiting Professor* **Spring Semester, 2024**  
Imparting Lectures on Soft Computing.

**Indian Institute of Information Technology Ranchi**, Ranchi, INDIA

*Visiting Professor* **Spring Semester, 2023**  
Imparting Lectures on IoT Architecture and Computing.

**International Institute of Information Technology Naya Raipur**, CG, INDIA

*Adjunct Professor* **Autumn Semester, 2020**  
Imparting Lectures on Soft Computing.

**International Institute of Information Technology Naya Raipur**, CG, INDIA

*Adjunct Professor* **Spring Semester, 2021**  
Imparting Lectures on Cloud Computing.

**International Institute of Information Technology Naya Raipur**, CG, INDIA

*Adjunct Professor* **Autumn Semester, 2021**  
Imparting Lectures on Soft Computing.

**International Institute of Information Technology Naya Raipur**, CG, INDIA

*Adjunct Professor* **Spring Semester, 2022**  
Imparting Lectures on Quantum Computing.

**International Institute of Information Technology Naya Raipur**, CG, INDIA

*Adjunct Professor* **Spring Semester, 2023**  
Imparting Lectures on Quantum Computing.

**CHRIST (Deemed to be University)**, Department of Computer Science and Engineering, Bengaluru, INDIA

*Professor* **17<sup>th</sup> December, 2019 - 28<sup>th</sup> February, 2021**  
Duties include academics, research and supervising research scholars.

**RCC Institute of Information Technology**, Department of Information Technology, Kolkata, INDIA

*Professor* **14<sup>th</sup> October, 2014 - 16<sup>th</sup> December, 2019**  
Duties include academics, research and supervising research scholars.

**RCC Institute of Information Technology**, Department of Computer Application, Kolkata, INDIA

*Professor* **25<sup>th</sup> August, 2017 - 16<sup>th</sup> December, 2019**  
Duties include academics, research and supervising research scholars.

**RCC Institute of Information Technology**, Department of Information Technology, Kolkata, INDIA

*Associate Professor* **14<sup>th</sup> October, 2011 - 13<sup>th</sup> October 2014**  
Duties include academics, research and supervising research scholars.

**University Institute of Technology**, Department of Computer Science & Information Technology, University of Burdwan, INDIA

*Assistant Professor* **21<sup>st</sup> October, 2005 - 13<sup>th</sup> October 2011**

Duties include academics and research.

**Kalyani Government Engineering College**, Department of Information Technology, Kalyani, INDIA

*Lecturer*

**19<sup>th</sup> December, 2001 - 20<sup>th</sup> October 2005**

Duties include academics and research.

ADMINISTRATIVE  
EXPERIENCE

**IEEE Computational Intelligence Society**, Kolkata Chapter, INDIA

*Chairperson*

**1<sup>st</sup> January, 2023 - Till Date**

[<https://ieeeciskolkata.in/executive-committee-member/>]

Leading the Kolkata Chapter in organizing STEM events and activities.

**Asia-Pacific Artificial Intelligence Association**, Kolkata Branch, INDIA

*Founding President*

**1<sup>st</sup> September, 2022 - Till Date**

Leading the Kolkata Branch in organizing STEM events and activities.

**Rajnaragar Mahavidyalaya**, Birbhum, INDIA

*Principal*

**5<sup>th</sup> March, 2021 - 11<sup>th</sup> January, 2024**

Heading the institute; looking after the academics and administrative affairs.

**RCC Institute of Information Technology**, Kolkata, INDIA

*Principal*

**7<sup>th</sup> March, 2017 - 11<sup>th</sup> November, 2019**

Heading the institute; looking after the academics and administrative affairs.

**RCC Institute of Information Technology**, Kolkata, INDIA

*Dean (Academic Affairs)*

**February, 2017 - August, 2018**

Looking after the overall academic affairs of the institute.

**RCC Institute of Information Technology**, Kolkata, INDIA

*Dean (Research & Development)*

**November, 2013 - December, 2019**

Leading and monitoring the research activities of the institute, organizing international conferences on a regular basis and exploring opportunities for research/consultancy.

**RCC Institute of Information Technology**, Department of Information Technology, Kolkata, INDIA

*Head of the Department*

**March, 2014 - December, 2016**

Successfully led the department toward academic excellence, spearheaded the department toward achieving NBA accreditation for 3 years.

PROFESSIONAL  
EXPERIENCE

**Department of Computer Science & Technology**, IEST, INDIA

*Project Fellow*

**May, 2001 - December, 2001**

Served in a RCI, Hyderabad, India sponsored project entitled Integration of GPS and Baro-Inertial Loop aided Strapdown INS.

**Department of Applied Physics**, University of Calcutta, INDIA

Served in a DST, Govt. of India sponsored project entitled Optical Computing.

HONORS AND AWARDS

- **Listed in the Top 2% Most Influential Scientists in the 2023 Stanford University List**
- Appointed as a **IEEE Computer Society Distinguished Visitor** for the period 2021-2023
- **First Time IEEE Journal Author** from IEEE Bangalore Section, India in 2021
- **People of ACM** from ACM, USA in 2020. *“People of ACM” highlights the unique scientific accomplishments and compelling personal attributes of ACM members who are making a difference in advancing computing as a science and a profession These bulletins feature ACM members whose personal and professional stories are a source of inspiration for the larger computing community*
- **Young Scientist Award (Science & Technology)** from CSERD, India in 2018
- Appointed as a **ACM Distinguished Speaker** from ACM ACM, USA for the period 2018-2020
- **Distinguished HoD Award** from CSI Mumbai Chapter in 2017
- **Distinguished Professor Award** from CSI Mumbai Chapter in 2017
- **Bhartiya Shiksha Ratan Award** from Economic Growth Foundation in 2017
- **Best Faculty for Research Award** from NACF SCRA, India in 2017
- **Honorary Doctorate (D. Litt.)** from University of South America in 2017
- South East Asia Regional Computing Confederation (SEARCC) International Digital Award **ICT Educator of the Year** at Colombo, Sri Lanka in 2017
- **Rashtriya Shiksha Gaurav Puraskar 2017** from Center of Economic Growth and Research in 2017
- National Award for Excellence **ADARSH VIDYA SARASWATI RASHTRIYA PURASKAR** in 2016
- **Chairman’s Excellence Award** in 2016 as a mark of service as the Head of Department from March 2014 to December 2016
- University Gold Medal Award for Masters in 2012
- CSIR Senior Research Fellowship in 2001
- Santi Kumar Roy Award for Masters in 2001

ACADEMIC CONTRIBUTIONS AT A GLANCE

Citation Index	No. of Journal Papers	No. of Book Chapters	No. of Conference Papers	No. of Patents, Copyrights & Trade-marks	No. of Books authored/edited	PhDs Awarded
Google Scholar h-Index: 35 Scopus h-Index: 27	86	61	141	Patents: 20 (11 Published; 10 Granted) Copyrights: 23 Trademarks: 02	112	06

1. P. Das, A. Ray, **S. Bhattacharyya**, J. Platos, V. Snasel, L. Mrcic, T. Huang, and I. Zelinka, "A Brief Review on Quantum Computing based Drug Design," *WIREs Data Mining and Knowledge Discovery*, e1553. <https://doi.org/10.1002/widm.15532024>.
2. V. Ravindranath, M. K. Nallakaruppan, M. Lawanya Shri, Balamurugan Balusamy, and **S. Bhattacharyya**, "Evaluation of Performance Enhancement in Ethereum Fraud Detection using Oversampling Techniques," *Applied Soft Computing*, vol. 161, 2024, <https://doi.org/10.1016/j.asoc.2024.111698>.
3. A. Bandopadhyay, S. Swain, R. Singh, P. Sarkar, **S. Bhattacharyya**, and L. Mrcic, "Game-Theoretic Resource Allocation and Dynamic Pricing Mechanism in Fog Computing," *IEEE Access*, vol. 12, pp. 51704-51718, 2024, <https://doi.org/10.1109/ACCESS.2024.3384334>.
4. A. Gunjan and **S. Bhattacharyya**, "Quantum-inspired meta-heuristic approaches for a constrained portfolio optimization problem," *Evolutionary Intelligence*, 2024, <https://doi.org/10.1007/s12065-024-00929-4>.
5. M. K. Nallakaruppan, B. Balusamy, M. L. Shri, V. Malathi, and **S. Bhattacharyya**, "An Explainable AI Framework for Credit Evaluation and Analysis," *Applied Soft Computing*, vol. 153, 111307, 2024, <https://doi.org/10.1016/j.asoc.2024.111307>.
6. **S. Bhattacharyya**, D. De, S. Gorbachev, and D. Konar, "Virtual special issue on quantum inspired soft computing for intelligent data processing guest editorial," *Applied Soft Computing*, 2023, <https://doi.org/10.1016/j.asoc.2023.111156>.
7. K. Chakraborty, **S. Bhattacharyya**, R. Bag, and L. Mrcic, "Sentiment Analysis on Labeled and Unlabeled Datasets using BERT Architecture," *Soft Computing*, 2023, <https://doi.org/10.1007/s00500-023-08876-5>.
8. A. Dey, **S. Bhattacharyya**, S. Dey, J. Platos, and V. Snasel, "A Quantum Inspired Differential Evolution Algorithm for Automatic Clustering of Real Life Datasets," *Multimedia Tools and Applications*, 2023, <https://doi.org/10.1007/s11042-023-15704-3.z>.
9. A. Dey, **S. Bhattacharyya**, S. Dey, D. Konar, J. Platos, V. Snasel, L. Mrcic, and P. Pal, "A Review of Quantum-Inspired Metaheuristic Algorithms for Automatic Clustering," *Mathematics*, vol. 11, 2018, 2023, <https://doi.org/10.3390/math11092018>.
10. T. Dutta, **S. Bhattacharyya**, B. K. Panigrahi, I. Zelinka, and L. Mrcic, "Multi-Level Quantum Inspired Metaheuristics for Automatic Clustering of Hyperspectral Images," *Quantum Machine Intelligence*, vol. 5(22), <https://doi.org/10.1007/s42484-023-00110-7>, 2023.
11. P. Pal, **S. Bhattacharyya**, J. Platos and V. Snasel, "A Brief Survey on Image Segmentation based on Quantum Inspired Neural Network," *International Journal of Hybrid Intelligence*, vol. 2(2), pp. 102-118, 2023, <https://doi.org/10.1504/IJHI.2023.129296>.
12. D. Konar, A. Das Sarma, S. Bhandary, **S. Bhattacharyya**, A. Cangi, and V. Aggarwal, "A Shallow Hybrid Classical-Quantum Spiking Feedforward Neural Network for Noise-Robust Image Classification," *Applied Soft Computing*, 2023, <https://doi.org/10.1016/j.asoc.2023.110099>.
13. D. Konar, **S. Bhattacharyya**, T. Gandhi, B. K. Panigrahi, and R. Jiang, "3D Quantum inspired Self-supervised Tensor Network for Volumetric Segmentation of Medical Images," *IEEE Transactions on Neural Networks and Learning Systems*, 2023, <https://doi.org/10.1109/tnnls.2023.3240238>.
14. D. Konar, **S. Bhattacharyya**, B. K. Panigrahi, and E. C. Behrman, "Qutrit-inspired Fully Self-supervised Shallow Quantum Learning Network for Brain Tumor Segmentation," *IEEE Transactions on Neural Networks and Learning Systems*, vol. 33(11), pp. 6331-6345, 2022, <https://doi.org/10.1109/TNNLS.2021.3077188>.
15. A. Bardhan, N. Kardani, A. GuhaRay, P. Samui, C. Wu, Y. Zhang, **S. Bhattacharyya**, and C. Gokceoglu, "Hybrid neuro swarm intelligence paradigms for predicting the shear strength of sub-soil of heavy-haul freight corridor," *Road Materials and Pavement Design*, 2022, <https://doi.org/10.1080/14680629.2022.2117063>.

16. A. Gunjan and **S. Bhattacharyya**, “A brief review of portfolio optimization techniques,” *Artificial Intelligence Review*, 2022, <https://doi.org/10.1007/s10462-022-10273-7>.
17. S. K. Ghosh, A. Ghosh, and **S. Bhattacharyya**, “Recognition of cancer mediating biomarkers using rough approximations enabled intuitionistic fuzzy soft sets based similarity measure,” *Applied Soft Computing*, vol. 124 (109052), pp. 1-15, 2022, <https://doi.org/10.1016/j.asoc.2022.109052>.
18. A. Dey, **S. Bhattacharyya**, S. Dey, J. Platos, and V. Snasel, “Automatic Clustering of Colour Images Using Quantum Inspired Meta-heuristic Algorithms,” *Applied Intelligence*, 2022, <https://doi.org/10.1007/s10489-022-03806-8>.
19. L. Song, X. Liu, S. Chen, S. Liu, X. Liu, K. Muhammad, and **S. Bhattacharyya**, “A deep fuzzy model for diagnosis of COVID-19 from CT images,” *Applied Soft Computing*, vol. 122 (108883), pp. 1-11, 2022, <https://doi.org/10.1016/j.asoc.2022.108883>.
20. M. V. Bobyr, A. E. Arkhipov, S. V. Gorbachev, J. Cao, and **S. Bhattacharyya**, “Fuzzy logical approaches in the task of object edge detection,” *Informatics and Automation*, 2022, <https://doi.org/10.15622/ia.21.2.6>.
21. D. Konar, **S. Bhattacharyya**, S. Dey, and B. K. Panigrahi, “Optimized Activation for Quantum-Inspired Self-supervised Neural Network based Fully Automated Brain Lesion Segmentation,” *Applied Intelligence*, 2021, <https://doi.org/10.1007/s10489-021-03108-5>.
22. T. Dutta, S. Dey, **S. Bhattacharyya**, and S. Mukhopadhyay, “Quantum Fractional Order Darwinian Particle Swarm Optimization for Hyperspectral Multi-level Image Thresholding,” *Applied Soft Computing*, vol. 113, 107976, 2021, <https://doi.org/10.1016/j.asoc.2021.107976>.
23. Z. Ali, G. Qi, K. Muhammad, **S. Bhattacharyya**, I. Ullah, and W. Abro, “Citation recommendation employing heterogeneous bibliographic network embedding,” *Neural Computing and Applications*, 2021, <https://doi.org/10.1007/s00521-021-06135-y>.
24. M. V. Bobyr, S. V. Gorbachev, N. A. Milostnaya, A. E. Arkhipov, M. Y. Luneva, J. Cao, **S. Bhattacharyya**, and S. A. Kale, “Analysis of High-speed Defuzzifiers in Heterogeneous Ensemble Models for the Task of Controlling a Robotic Manipulator,” *International Journal of Mobile Computing Devices*, vol. 7(1), pp. 8-16, 2021, <https://doi.org/10.37591/JMCD>.
25. S. V. Gorbachev, A. E. Arkhipov, N. N. Gorbacheva, **S. Bhattacharyya**, J. Cao, and S. A. Kale, “Study and Developing of Diversity Generation Methods in Heterogeneous Ensemble Models,” *International Journal of Distributed Computing and Technology*, vol. 7(1), 2021, <https://doi.org/10.37628/IJDCT>.
26. A. K. Sharma, G. Aggarwal, S. Bhardwaj, P. Chakrabarti, T. Chakrabarti, J. Hussein, **S. Bhattacharyya**, R. Mishra, A. Das, and H. Mahdin, “Classification of Indian Classical Music with Time-Series Matching Deep Learning Approach”, *IEEE Access*, vol. 9, pp. 102041-102052, 2021, <https://doi.org/10.1109/ACCESS.2021.3093911>.
27. A. Bardhan, P. Samui, K. Ghosh, A. H. Gandomi, and **S. Bhattacharyya**, “ELM-based adaptive neuro swarm intelligence techniques for predicting the California bearing ratio of soils in soaked conditions,” *Applied Soft Computing*, vol. 110, 2021, <https://doi.org/10.1016/j.asoc.2021.107595>.
28. A. Dey, S. Dey, **S. Bhattacharyya**, J. Platos, and V. Snasel, “Quantum Inspired Meta-Heuristic Approaches for Automatic Clustering of Colour Images,” *International Journal of Intelligent Systems*, Wiley, pp. 1-50, 2021, <https://doi.org/10.1002/int.22494>.
29. M. V. Bobyr, A. E. Arkhipov, A. S. Yakushev, and **S. Bhattacharyya**, “Building Depth Map Using the Upgraded Canny Filter - Part 2,” *Industrial ACS and Controllers*, vol. 5, pp. 3-15, 2021, <https://doi.org/10.25791/asu.5.2021.1277>.
30. S. Khan, K. Muhammad, T. Hussain, J. D. Ser, F. Cuzzolin, **S. Bhattacharyya**, Z. Akhtar, and V. H. C. de Albuquerque, “DeepSmoke: Deep Learning Model for Smoke Detection

- and Segmentation in Outdoor Environments,” *Expert Systems with Applications*, vol. 182 (115125), 2021, <https://doi.org/10.1016/j.eswa.2021.115125>.
31. T. Dutta, S. Dey, **S. Bhattacharyya**, S. Mukhopadhyay, and P. Chakrabarti, “Hyperspectral Multi-level Image Thresholding using Qutrit Genetic Algorithm,” *Expert Systems With Applications*, 2021, <https://doi.org/10.1016/j.eswa.2021.115107>.
  32. S. V. Gorbachev, V. F. Kuzin, N. A. Milostnaya, J. Cao, J. Qiu, and **S. Bhattacharyya**, “Multi-Agent Quantum Approach to Modeling of Complex Emotional Intelligence with an Ensemble Organization,” *Bulletin of Russian Academy of Sciences*, vol. 5, pp. 123-129, 2021.
  33. S. V. Gorbachev, M. V. Bobyr, N. N. Gorbacheva, J. Cao, **S. Bhattacharyya**, and S. A. Kale, “Software Approach for Implementing Production Fuzzy Inference Rules for a Hybrid Ensemble Model,” *Recent Trends in Programming Languages*, vol. 7(3), pp. 8-16, 2021, ISSN: ISSN: 2455-1821.
  34. D. Konar, B. K. Panigrahi, **S. Bhattacharyya**, N. Dey and R. Jiang, “Auto-diagnosis of COVID-19 using Lung CT Images with Semi-supervised Shallow Learning Network,” *IEEE Access*, vol. 9, pp. 28716-28728, 2021, <https://doi.org/10.1109/ACCESS.2021.3058854>.
  35. S. V. Gorbachev, V. F. Kuzin, J. Cao and **S. Bhattacharyya**, “Neuro-Fuzzy Methods for Forecasting of Oil Bearing Zones based on Complex Geophysical and Geochemical Data,” *Bulletin of Russian Academy of Natural Sciences*, vol. 4, pp. 27-32, 2020.
  36. K. Chakraborty, S. Bhatia, **S. Bhattacharyya**, J. Platos, R. Bag and A. E. Hassanien, “Sentiment Analysis of COVID-19 tweets by Deep Learning Classifiers - a study to show how popularity is affecting accuracy in social media,” *Applied Soft Computing*, 2020, <https://doi.org/10.1016/j.asoc.2020.106754>.
  37. A. M. Anter, **S. Bhattacharyya** and Z. Zhang, “Multi-Stage Fuzzy Swarm Intelligence for Automatic Hepatic Lesion Segmentation from CT Scans,” *Applied Soft Computing*, vol. 96, 106677, pp. 1-17, 2020, <https://doi.org/10.1016/j.asoc.2020.106677>.
  38. B. Biswas, **S. Bhattacharyya**, A. Chakrabarti, K. N. Dey, J. Platos and V. Snasel, “Colonoscopy contrast enhanced by intuitionistic fuzzy soft sets for polyp cancer localization,” *Applied Soft Computing*, vol. 95, 106492, 2020, <https://doi.org/10.1016/j.asoc.2020.106492>.
  39. T. Dutta, **S. Bhattacharyya**, S. Dey and J. Platos, “Border Collie Optimization,” *IEEE Access*, vol. 8, pp. 109177-109197, 2020, <https://doi.org/10.1109/ACCESS.2020.2999540>.
  40. D. Konar, **S. Bhattacharyya**, T. K. Gandhi and B. K. Panigrahi, “A Quantum-Inspired Self-Supervised Network Model for Automatic Segmentation of Brain MR Images,” *Applied Soft Computing*, vol. 92, pp. 1-21, 2020, <https://doi.org/10.1016/j.asoc.2020.106348>.
  41. A. Dey, S. Dey, **S. Bhattacharyya**, J. Platos and V. Snasel, “Novel Quantum Inspired Approaches for Automatic Clustering of Gray Level Images Using Particle Swarm Optimization, Spider Monkey Optimization and Ageist Spider Monkey Optimization,” *Applied Soft Computing*, vol. 88(106040), pp. 1-29, 2020, <https://doi.org/10.1016/j.asoc.2019.106040>.
  42. S. K. Roy, S. Chatterjee, **S. Bhattacharyya**, B. B. Chaudhuri and J. Platos, “Lightweight Spectral-Spatial Squeeze-and-Excitation Residual Bag-of-Features Learning for Hyperspectral Classification,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 58(8), pp. 5277-5290, Aug. 2020, <https://doi.org/10.1109/TGRS.2019.2961681>.
  43. K. Chakraborty, **S. Bhattacharyya** and R. Bag, “A Survey of Sentiment Analysis from Social Media Data,” *IEEE Transactions on Computational Social Systems*, vol. 7(2), pp. 450-464, 2020, <https://doi.org/10.1109/TCSS.2019.2956957>.
  44. S. K. Roy, D. K. Ghosh, S. R. Dubey, **S. Bhattacharyya** and B. B. Chaudhuri, “Unconstrained texture classification using efficient jet texton learning,” vol. 86(105910), pp. 1-11, *Applied Soft Computing*, 2019, <https://doi.org/10.1016/j.asoc.2019.105910>.

45. B. Biswas, S. K. Ghosh, **S. Bhattacharyya**, J. Platos, V. Snasel and A. Chakrabarti, "Chest X-ray Enhancement to Interpret Pneumonia Malformation based on Fuzzy Soft Set and Dempster-Shafer theory of Evidence," vol. 86(105889), pp. 1-15, Applied Soft Computing, 2019, <https://doi.org/10.1016/j.asoc.2019.105889>.
46. D. Banik, A. Ekbal, P. Bhattacharyya, **S. Bhattacharyya** and J. Platos, "Statistical-Based System Combination Approach to Gain Advantages Over Different Machine Translation Systems," Heliyon, vol. 5 (e02504), 2019, <https://doi.org/10.1016/j.heliyon.2019.e02504>.
47. S. Sahni, V. Aggarwal, A. Khanna, D. Gupta and **S. Bhattacharyya**, "Quantum-Inspired Evolutionary Algorithms for Neural Network Weight Distribution: A Classification Model for Parkinson's Disease," Journal of Information and Organizational Sciences, 2019, <https://doi.org/10.31341/jios.44.2.9>.
48. Md. A. Elaziz, **S. Bhattacharyya** and S. Lu, "Swarm selection method for multilevel thresholding image segmentation," Expert Systems With Applications, vol. 138 (112818), pp. 1-24, 2019, <https://doi.org/10.1016/j.eswa.2019.07.035>.
49. B. Biswas, **S. Bhattacharyya**, J. Platos and V. Snasel, "Enhancement of Dronogram Aid to Visual Interpretation of Target Objects via Intuitionistic Fuzzy Hesitant Sets," Information Sciences, vol. 500, pp. 67-86, 2019, <https://doi.org/10.1016/j.ins.2019.05.069>.
50. D. Banik, A. Ekbal, P. Bhattacharyya and **S. Bhattacharyya**, "Assembling Translations from Multi-Engine Machine Translation Outputs", Applied Soft Computing, vol. 78, pp. 230-239, 2019, <https://doi.org/10.1016/j.asoc.2019.02.031>.
51. H. Bhaumik, **S. Bhattacharyya** and S. Chakraborty, "A Vague Set Approach for Identifying Shot Transition in Videos Using Multiple Feature Amalgamation," Applied Soft Computing, vol. 75, pp. 633-651, 2018, <https://doi.org/10.1016/j.asoc.2018.10.053>.
52. A. Mukherjee, S. De and **S. Bhattacharyya**, "A Survey on Big Data: An Emerging Imparity and Revolution in Digital World," International Journal of Hybrid Intelligence, Inderscience, 2018, <https://doi.org/10.1504/IJHI.2019.103575>.
53. R. M. Rizk-Allah, A. E. Hassanien and **S. Bhattacharyya**, "Chaotic Crow Search Algorithm for Fractional Optimization Problems," Applied Soft Computing, 2018, <https://doi.org/10.1016/j.asoc.2018.03.019>.
54. A. K. Das, S. Sengupta and **S. Bhattacharyya**, "A Group Incremental Feature Selection for Classification using Rough Set Theory based Genetic Algorithm," Applied Soft Computing, vol. 65C, pp. 400-411, 2018, <https://doi.org/10.1016/j.asoc.2018.01.040>.
55. B. Chakraborty, **S. Bhattacharyya** and S. Chakraborty, "Generative Model Based Video Shot Boundary Detection for Automated Surveillance," International Journal of Ambient Computing and Intelligence (IJACI), IGI Global, USA, 2018, 10.4018/IJACI.2018100105.
56. S. M. Islam, M. Banerjee, **S. Bhattacharyya** and S. Chakraborty, "Content-Based Image Retrieval Based on Multiple Extended Fuzzy-Rough Framework," Applied Soft Computing, vol. 57, pp. 102-117, 2017, <https://doi.org/10.1016/j.asoc.2017.03.036>.
57. S. Dey, **S. Bhattacharyya** and U. Maulik, "Efficient Quantum Inspired Meta-heuristics for Multi-level True Colour Image Thresholding," Applied Soft Computing, vol. 56, pp. 472-513, 2017, <https://doi.org/10.1016/j.asoc.2016.04.024>.
58. J. Ray and **S. Bhattacharyya**, "Particle Swarm Optimization Technique For Optimizing Conditional Value-at-Risk Based Portfolio" International Journal of Computer Sciences and Engineering, vol. 5(2), pp. 77-85, 2017, E-ISSN: 2347-2693.
59. D. Konar, **S. Bhattacharyya**, Kalpana Sharma, Sital Sharma and Sri Raj Pradhan, "An Improved Hybrid Quantum-Inspired Genetic Algorithm (HQIGA) for Scheduling of Real-Time Task in Multiprocessor System," Applied Soft Computing, vol. 53, pp. 296-307, 2017, <https://doi.org/10.1016/j.asoc.2016.12.051>.

60. P. Pal, **S. Bhattacharyya** and A. Mani, "Pure Color Object Extraction from a Noisy State using Quantum Version Parallel Self Organizing Neural Network," *International Journal of Computers and Applications*, vol. 38(2-3), pp. 164-186, 2016, <https://doi.org/10.1080/1206212X.2016.1237164>.
61. S. De, **S. Bhattacharyya** and P. Dutta, "Automatic Magnetic Resonance Image Segmentation by Fuzzy Intercluster Hostility Index Based Genetic Algorithm: An Application," *Applied Soft Computing*, vol. 47, pp. 669-683, 2016, <https://doi.org/10.1016/j.asoc.2016.05.042>.
62. **S. Bhattacharyya**, P. Dutta and U. Maulik, "Preface," *Applied Soft Computing*, vol. 46, pp. 523-526, 2016, <https://doi.org/10.1016/j.asoc.2016.05.002>.
63. H. Bhaumik, **S. Bhattacharyya**, Mausumi Das Nath and S. Chakraborty, "Hybrid Soft Computing Approaches to Content based Video Retrieval: A Brief Review," *Applied Soft Computing*, vol. 46, pp. 1008-1029, 2016, <https://doi.org/10.1016/j.asoc.2016.03.022>.
64. D. Konar, **S. Bhattacharyya**, B. K. Panigrahi and K. Nakamatsu, "A Quantum Bi-Directional Self-Organizing Neural Network (QBDSOINN) Architecture For Binary Object Extraction From A Noisy Perspective," *Applied Soft Computing*, vol. 46, pp. 731-752, 2016, <https://doi.org/10.1016/j.asoc.2015.12.040>.
65. S. Dey, **S. Bhattacharyya** and U. Maulik, "New Quantum Inspired Meta-heuristic Techniques for Multi-level Colour Image Thresholding," vol. 46, pp. 677-702, *Applied Soft Computing*, 2016, <https://doi.org/10.1016/j.asoc.2015.09.042>.
66. J. Ray and **S. Bhattacharyya**, "Value-at-Risk Based Portfolio Allocation Using Particle Swarm Optimization," *International Journal of Computer Sciences and Engineering (E-ISSN: 2347-2693)*, vol. 3, special issue 1, pp. 1-9, 2015, E-ISSN: 2347-2693.
67. **S. Bhattacharyya**, S. Bhattacharjee and N. K. Mondal, "A Quantum Backpropagation Multilayer Perceptron (QBMLP) for Predicting Iron Adsorption Capacity of Calcareous Soil from Aqueous Solution," *Applied Soft Computing*, vol. 27, pp. 299-312, 2014, <https://doi.org/10.1016/j.asoc.2014.11.019>.
68. **S. Bhattacharyya**, P. Pal and S. Bhowmick, "Binary Image Denoising Using a Quantum Multilayer Self Organizing Neural Network," *Applied Soft Computing*, vol. 24, pp. 717-729, 2014, <https://doi.org/10.1016/j.asoc.2014.08.027>.
69. **S. Bhattacharyya**, P. Pal and S. Bhowmick, "A Quantum Multilayer Self Organizing Neural Network For Binary Object Extraction From A Noisy Perspective," *International Journal for Computer Systems and Network Technologies (IJCSNT)*, vol. 3(1), pp. 1-13, 2014, <https://doi.org/10.18486/ijcsnt.2014.3.1.01>.
70. S. Dey, I. Saha, **S. Bhattacharyya** and U. Maulik, "Multi-level thresholding using quantum inspired meta-heuristics," *Knowledge-Based Systems*, vol. 67, pp. 373-400, 2014, <https://doi.org/10.1016/j.knosys.2014.04.006>.
71. N. K. Mondal, R. Bhaumik, B. Das, P. Roy, J. K. Datta, **S. Bhattacharyya** and S. Bhattacharjee, "Neural network model and isotherm study for removal of phenol from aqueous solution by orange peel ash," *Appl Water Sci*, Springer, 2014, <https://doi.org/10.1007/s13201-014-0188-4>.
72. S. Dey, **S. Bhattacharyya** and U. Maulik, "Quantum inspired genetic algorithm and particle swarm optimization using chaotic map model based interference for gray level image thresholding," *Swarm and Evolutionary Computation*, vol. 15, pp. 38-57, 2014, <https://doi.org/10.1016/j.swevo.2013.11.002>.
73. S. De, **S. Bhattacharyya** and S. Chakraborty, "Color Image Segmentation Using Parallel OptiMUSIG Activation Function," *Applied Soft Computing*, vol. 12(10), pp. 3228 - 3236, 2012, <https://doi.org/10.1016/j.asoc.2012.05.011>.

74. **S. Bhattacharyya**, U. Maulik and P. Dutta, "A Parallel Bi-Directional Self Organizing Neural Network (PBDSONN) Architecture For Color Image Extraction and Segmentation," *Neuro-computing*, vol. 86, pp. 1-23, 2012, <https://doi.org/10.1016/j.neucom.2011.11.025>.
75. K. Mondal, P. Dutta and **S. Bhattacharyya**, "Fuzzy Logic Based Gray Image Extraction and Segmentation," *International Journal of Scientific and Engineering Research (IJSER)*, vol. 3(4), ISSN 2229-5518, 2012, ISSN: 2229-5518.
76. **S. Bhattacharyya**, "A Brief Survey of Color Image Preprocessing and Segmentation Techniques", *International Journal of Pattern Recognition Research*, vol. 1, pp. 120-129, 2011, <https://doi.org/10.13176/11.191>.
77. **S. Bhattacharyya**, "Object Extraction in a Soft Computing Framework," in *Abstracts of Recent PhDs, The Knowledge Engineering Review*, vol. 25(3), pp. 364, Cambridge University Press, 2010, <http://dx.doi.org/10.1017/S0269888910000226>.
78. S. De, **S. Bhattacharyya** and P. Dutta, "Efficient Gray Level Image Segmentation Using An Optimized MUSIG (OptiMUSIG) Activation Function," *International Journal of Parallel, Emergent and Distributed Systems* (2010), pp. 1-39, 2010, <https://doi.org/10.1080/17445760903546618>.
79. **S. Bhattacharyya**, U. Maulik and P. Dutta, "Multilevel Image Segmentation With Adaptive Image Context Based Thresholding," *Applied Soft Computing*, vol. 11, pp. 946-962, 2010, <https://doi.org/10.1016/j.asoc.2010.01.015>.
80. **S. Bhattacharyya**, U. Maulik and P. Dutta, "High speed target tracking by fuzzy hostility induced segmentation of optical flow field," *Applied Soft Computing*, vol. 9, pp. 126-134, 2009, <https://doi.org/10.1016/j.asoc.2008.03.012>.
81. **S. Bhattacharyya**, U. Maulik and P. Dutta, "A pruning algorithm for efficient image segmentation with neighborhood neural networks," *IAENG International Journal of Computer Science*, vol. 35(2), pp. 191-200, 2008.
82. **S. Bhattacharyya**, P. Dutta and U. Maulik, "Self Organizing Neural Network (SONN) based gray scale object extractor with a Multilevel Sigmoidal (MUSIG) activation function," *International Journal of Foundations of Computing and Decision Sciences*, vol. 33(2), pp. 46-50, 2008, ISSN 0867-6356.
83. **S. Bhattacharyya**, P. Dutta and U. Maulik, "Binary object extraction using bi-directional self-organizing neural network (BDSONN) architecture with fuzzy context sensitive thresholding," *International Journal of Pattern Analysis and Applications*, Springer-Verlag, London, pp. 345-360, 2007, <https://doi.org/10.1007/s10044-007-0072-z>.
84. **S. Bhattacharyya**, P. Dutta, U. Maulik and P. K. Nandi, "Multilevel Activation Functions for True Color Image Segmentation Using a Self Supervised Parallel Self Organizing Neural Network (PSONN) Architecture: A Comparative Study," *International Journal of Computer Science*, vol. 2(1), pp. 09-21, 2007, ISSN 1306-4428.
85. **S. Bhattacharyya**, P. Dutta, U. Maulik and P. K. Nandi, "A Self Supervised Bi-directional Neural Network (BDSONN) Architecture for Object Extraction Guided by Beta Activation Function and Adaptive Fuzzy Context Sensitive Thresholding," *International Journal of Intelligent Systems and Technologies*, vol. 1(4), pp. 345-365, 2006, ISSN 1305-6417, <https://doi.org/10.5281/zenodo.1080586>.
86. **S. Bhattacharyya** and P. Dutta, "Designing pruned neighborhood neural networks for object extraction from noisy background," *International Journal of Foundations of Computing and Decision Sciences*, vol. 31(2), pp. 105-134, 2006, ISSN 0867-6356.

1. A. Chakraborty, **S. Bhattacharyya**, D. De, M. Mahmud, and J. S. Banerjee (eds. S. Bhattacharyya, J. S. Banerjee, and D. De), “Intelligent Automation Framework Using AI and RPA: An Introduction,” *Confluence of Artificial Intelligence and Robotic Process Automation*, pp.389-399, Springer, 2023, [https://doi.org/10.1007/978-981-19-8296-5\\_1](https://doi.org/10.1007/978-981-19-8296-5_1).
2. A. Chakraborty, **S. Bhattacharyya**, D. De, P. Sarigiannidis, and J. S. Banerjee (eds. S. Bhattacharyya, J. S. Banerjee, and D. De), “Confluence of Artificial Intelligence and Robotic Process Automation: Concluding Remarks,” *Confluence of Artificial Intelligence and Robotic Process Automation*, pp. 1-13, Springer, 2023, [https://doi.org/10.1007/978-981-19-8296-5\\_16](https://doi.org/10.1007/978-981-19-8296-5_16).
3. R. Saini, A. Mani, M. S. Prasad, and **S. Bhattacharyya** (ed. S. Bhattacharyya), “Towards a Framework for Implementation of Quantum-Inspired Evolutionary Algorithm on Noisy Intermediate Scale Quantum Devices (IBMQ) for Solving Knapsack Problems,” *Hybrid Computational Intelligent Systems: Modeling, Simulation and Optimization*, CRC Press, USA, 2023, <https://doi.org/10.1201/9781003381167-23>.
4. D. Mukhopadhyay, **S. Bhattacharyya**, S. Roy, and B. Krishnan (eds. D. Mukhopadhyay, S. Bhattacharyya, S. Roy, and B. Krishnan), “Introduction to Blockchain for Internet of Things,” *Blockchain for IoT*, CRC Press, USA, pp. 1-20, 2022, <https://doi.org/10.1201/9781003188247-1>.
5. D. De, A. Karmakar, P. S. Banerjee, **S. Bhattacharyya**, and J. J. P. C. Rodrigues (eds. D. De, S. Bhattacharyya, and J. J. P. C. Rodrigues), “BCoT: Introduction to Blockchain-Based Internet of Things for Industry 5.0,” *Blockchain based Internet of Things*, Springer, pp. 1-22, 2022, [https://doi.org/10.1007/978-981-16-9260-4\\_1](https://doi.org/10.1007/978-981-16-9260-4_1).
6. **S. Bhattacharyya**, P. S. Banerjee, A. Karmakar, D. De, and J. J. P. C. Rodrigues (eds. D. De, S. Bhattacharyya, and J. J. P. C. Rodrigues), “BCoT: Concluding Remarks,” *Blockchain based Internet of Things*, Springer, pp. 1-22, 2022, [https://doi.org/10.1007/978-981-16-9260-4\\_12](https://doi.org/10.1007/978-981-16-9260-4_12).
7. T. Dutta, **S. Bhattacharyya**, and D. De (eds. S. Bhattacharyya, M. Koeppen, E. C. Behrman, and I. Cruz-Aceves), “Multilevel Quantum Elephant Herd Algorithm for Automatic Clustering of Hyperspectral Images,” *Hybrid Quantum Metaheuristics: Theory and Applications*, CRC Press, USA, pp. 171-188, 2022, <https://doi.org/10.1201/9781003283294-8>.
8. A. Dey, **S. Bhattacharyya**, S. Dey, J. Platos, and V. Snasel (eds. S. Bhattacharyya, M. Koeppen, E. C. Behrman, and I. Cruz-Aceves), “Quantum Inspired Manta Ray Foraging Optimization Algorithm for Automatic Clustering of Colour Images,” *Hybrid Quantum Metaheuristics: Theory and Applications*, CRC Press, USA, pp. 95-116, 2022, <https://doi.org/10.1201/9781003283294-5>.
9. A. Dey, **S. Bhattacharyya**, S. Dey, J. Platos, and V. Snasel (eds. S. Bhattacharyya, M. Koeppen, E. C. Behrman, and I. Cruz-Aceves), “Quantum Inspired Multi-Objective NSGA-II Algorithm for Automatic Clustering of Gray Scale Image,” *Hybrid Quantum Metaheuristics: Theory and Applications*, CRC Press, USA, pp. 207-230, 2022, <https://doi.org/10.1201/9781003283294-10>.
10. I. Banerjee and **S. Bhattacharyya** (eds. S. Gupta, I. Banerjee, and S. Bhattacharyya), “Introduction to Multi-agent Systems”, *Multi Agent Systems: Technologies and Applications Towards Human-Centered*, 2022, <https://doi.org/10.1007/978-981-19-0493-6>.
11. **S. Bhattacharyya** and I. Banerjee (eds. S. Gupta, I. Banerjee, and S. Bhattacharyya), “Multi-agent Systems: Future Initiatives”, *Multi Agent Systems: Technologies and Applications Towards Human-Centered*, 2022, <https://doi.org/10.1007/978-981-19-0493-6>.
12. S. De, S. Dey, S. Bhatia, and **S. Bhattacharyya** (eds. S. De, S. Dey, S. Bhattacharyya, and S. Bhatia), “An introduction to data mining in social networks”, *Advanced Data Mining Tools and Methods for Social Computing*, Elsevier, 2022, <https://doi.org/10.1016/B978-0-32-385708-6.00008-4>.

13. K. Chakraborty, **S. Bhattacharyya**, and R. Bag (eds. S. Bhattacharyya, G. Das, and S. De), “A Three-Step Fuzzy based BERT Model for Sentiment Analysis,” *Intelligence Enabled Research: DoSIER 2021*, Springer Studies in Computational Intelligence, pp. 41-52, 2021, [https://doi.org/10.1007/978-981-19-0489-9\\_4](https://doi.org/10.1007/978-981-19-0489-9_4).
14. D. Chowdhury, S. Banerjee, A. Dey, D. Biswas, and **S. Bhattacharyya** (eds. S. Bhattacharyya, G. Das, and S. De), “Covacdiser: A Machine Learning based Web Application to Recommend the Prioritization of COVID-19 Vaccination,” *Intelligence Enabled Research: DoSIER 2021*, Springer Studies in Computational Intelligence, pp. 105-117, 2021, [https://doi.org/10.1007/978-981-19-0489-9\\_9](https://doi.org/10.1007/978-981-19-0489-9_9).
15. R. Chaurasiya, D. Dey, T. Rakshit, and **S. Bhattacharyya** (eds. S. Bhattacharyya, G. Das, and S. De), “A Single Qubit Quantum Perceptron for OR and XOR Logic,” *Intelligence Enabled Research: DoSIER 2021*, Springer Studies in Computational Intelligence, pp. 133-145, 2021, [https://doi.org/10.1007/978-981-19-0489-9\\_11](https://doi.org/10.1007/978-981-19-0489-9_11).
16. S. Gorbachev, D. Shevchuk, V. Kuzin, **S. Bhattacharyya**, and W. Zhijian (eds. S. Bhattacharyya, G. Das, and S. De), “The Method of Neuro-fuzzy Calibration of Geometrically Distorted Images of Digital X-Ray Tomographs,” *Intelligence Enabled Research: DoSIER 2021*, Springer Studies in Computational Intelligence, pp. 167-178, 2021, [https://doi.org/10.1007/978-981-19-0489-9\\_13](https://doi.org/10.1007/978-981-19-0489-9_13).
17. D. Konar, **S. Bhattacharyya**, S. De, A. Das, J. Platos, S. V. Gorbachev, and K. Muhammad (eds. S. Bhattacharyya), “Early Prediction of Coronavirus Epidemic Outbreak using Stacked Long Short Term Memory Networks,” *Intelligent Modelling, Prediction, and Diagnosis from Epidemiological Data: COVID-19 and Beyond*, CRC Press, 2021, <https://doi.org/10.1201/9781003158684-5>.
18. **S. Bhattacharyya**, R. Das, and S. Nandy (eds. S. Bhattacharyya, R. Das, and S. Nandy), “A prologue to Emerging trends in Machine Learning,” *Emerging Trends in Machine Learning*, De Gruyter, 2019, <https://doi.org/10.1515/9783110610987-003>.
19. H. Bhaumik, **S. Bhattacharyya**, and S. Chakraborty (eds. S. Bhattacharyya, A. Khanna, D. Gupta, and V. Snasel), “Real-Time Video Segmentation using a Vague Adaptive Threshold,” *Hybrid Computational Intelligence: Utilities and Challenges*, Elsevier, 2019, <https://doi.org/10.1016/B978-0-12-818699-2.00010-X>.
20. S. Dey, S. De, and **S. Bhattacharyya** (eds. S. Bhattacharyya, I. Pan, A. Mani, S. De, E. Behrman, and S. Chakraborty), “Introduction to quantum machine learning,” *Quantum Machine Learning*, De Gruyter, pp. 1-10, 2020, <https://doi.org/10.1515/9783110670707-001>.
21. A. Mani, **S. Bhattacharyya**, and A. Chatterjee (eds. S. Bhattacharyya, I. Pan, A. Mani, S. De, E. Behrman, and S. Chakraborty), “Quantum optimization for machine learning,” *Quantum Machine Learning*, De Gruyter, pp. 39-66, 2020, <https://doi.org/10.1515/9783110670707-003>.
22. A. Dey, S. Dey, **S. Bhattacharyya**, J. Platos, and V. Snasel (eds. S. Bhattacharyya, I. Pan, A. Mani, S. De, E. Behrman, and S. Chakraborty), “Quantum Inspired Automatic Clustering Algorithms: A comparative study of Genetic Algorithm and Bat Algorithm,” *Quantum Machine Learning*, De Gruyter, pp. 89-114, 2020, <https://doi.org/10.1515/9783110670707-005>.
23. R. Jana, **S. Bhattacharyya**, and S. Das (eds. S. Bhattacharyya, V. Snasel, A. E. Hassanien, S. Saha, and B. K. Tripathy), “Handwritten Digit Recognition Using Convolutional Neural Networks,” *Deep Learning*, De Gruyter, 2020, <https://doi.org/10.1515/9783110670905-003>.
24. S. Dey, D. Konar, S. De, and **S. Bhattacharyya** (eds. T. Gandhi, S. Bhattacharyya, S. De, D. Konar, and S. Dey), “An introductory illustration of medical image analysis”, *Advanced Machine Vision Paradigms for Medical Image Analysis*, 2020 ISBN: 9780128192955.

25. J. Ray, **S. Bhattacharyya**, and N. B. Singh (eds. J. Ray, A. Mukherjee, S. K. Dey, and G. Klepac), "Portfolio Optimization and Asset Allocation With Metaheuristics: A Review", *Metaheuristic Approaches to Portfolio Optimization*, pp. 1-26, IGI Global, USA, 2019, <https://doi.org/10.4018/978-1-7998-8048-6.ch005>.
26. J. Ray, **S. Bhattacharyya**, and N. B. Singh (eds. J. Ray, A. Mukherjee, S. K. Dey, and G. Klepac), "Conditional Value-at-Risk-Based Portfolio Optimization: An Ant Colony Optimization Approach", *Metaheuristic Approaches to Portfolio Optimization*, pp. 82-108, IGI Global, USA, 2019, <https://doi.org/10.4018/978-1-5225-8103-1.ch004>.
27. S. Basu, I. Pan, and Siddhartha Bhattacharyya (eds. S. Bhattacharyya, I. Pan, A. Das, and S. K. Gupta), "Exploring the scope of intelligent algorithms for various community detection techniques," *Intelligent Multimedia Data Analysis*, pp. 19-41, De Gruyter, Germany, 2018, <https://doi.org/10.1515/9783110552072-002>.
28. A. Dey, S. Dey, **S. Bhattacharyya**, V. Snasel, and A. E. Hassanien (eds. S. Bhattacharyya, I. Pan, A. Das, and S. K. Gupta), "Quantum inspired simulated annealing technique for automatic clustering," *Intelligent Multimedia Data Analysis*, pp. 145-166, De Gruyter, Germany, 2018, <https://doi.org/10.1515/9783110552072-007>.
29. M. Roy, I. Pan, and **S. Bhattacharyya** (eds. S. Bhattacharyya, I. Pan, A. Das, and S. K. Gupta), "Intelligent greedy model for influence maximization in multimedia data networks," *Intelligent Multimedia Data Analysis*, pp. 1167-181, De Gruyter, Germany, 2018, <https://doi.org/10.1515/9783110552072-008>.
30. H. Bhaumik, **S. Bhattacharyya**, S. Sur, and S. Chakraborty (eds. S. Bhattacharyya, H. Bhaumik, A. Mukherjee, and S. De), "Keyframe selection for video indexing using an approximate minimal spanning tree," *Machine Learning for Big Data Analysis*, pp. 31-68, De Gruyter, Germany, 2018, <https://doi.org/10.1515/9783110551433-002>.
31. S. Das, S. De, and **S. Bhattacharyya** (ed. S. Bhattacharyya), "True Color Image Segmentation Using Quantum Induced Modified Genetic Algorithm Based FCM Algorithm", *Quantum-Inspired Systems for Multimedia Data Analysis*, pp. 55-94, IGI Global, USA, 2018, <https://doi.org/10.4018/978-1-7998-8593-1.ch007>.
32. P. Pal, **S. Bhattacharyya**, and N. Agrawal (ed. S. Bhattacharyya), "Grayscale Image Segmentation With Quantum-Inspired Multilayer Self-Organizing Neural Network Architecture Endorsed by Context Sensitive Thresholding", *Quantum-Inspired Systems for Multimedia Data Analysis*, pp. 141-177, IGI Global, USA, 2018, <https://doi.org/10.4018/978-1-7998-8593-1.ch008>.
33. P. Pal and **S. Bhattacharyya** (ed. S. Bhattacharyya), "True Color Image Segmentation by MUSIG Activation Function Using Self-Supervised QMLSONN Architecture With Context Sensitive Thresholding", *Quantum-Inspired Systems for Multimedia Data Analysis*, pp. 213-261, IGI Global, USA, 2018, <https://doi.org/10.4018/978-1-5225-5219-2.ch007>.
34. S. Dey, **S. Bhattacharyya**, and U. Maulik (ed. S. Bhattacharyya), "Quantum-Inspired Automatic Clustering Technique Using Ant Colony Optimization Algorithm", *Quantum-Inspired Systems for Multimedia Data Analysis*, pp. 27-54, IGI Global, USA, 2018, , <https://doi.org/10.4018/978-1-5225-5219-2.ch002>.
35. K. Chakraborty, **S. Bhattacharyya**, and R. Bag (eds. Nilanjan Dey, Samarjeet Borah, Amira S. Ashour, and Rosalina Babo), "Sentiment Analysis on a set of Movie Reviews using Deep Learning Techniques", *Social Network Analytics - Computational Research Methods and Techniques*, Elsevier, 2018, <https://doi.org/10.1016/B978-0-12-815458-8.00007-4>.
36. S. Dey, S. De, and **S. Bhattacharyya** (ed. S. Bhattacharyya), "Introduction to Hybrid Metaheuristics", *Hybrid Metaheuristics: Research and Applications*, pp. 1-38, World Scientific Press, 2018, <https://doi.org/10.1142/10989>.

37. S. De, S. Das, **S. Bhattacharyya**, and P. Dutta (eds. S. Bhattacharyya, I. Pan, A. Mukherjee, and P. Dutta), “Multilevel Image Segmentation Using Modified Genetic Algorithm (MfGA)-based Fuzzy C-Means”, *Hybrid Intelligence for Image Analysis and Understanding*, pp. 71-114, John Wiley & Sons, 2017, ISBN: 978-1-119-24292-5.
38. S. M. Islam, M. Banerjee, and **S. Bhattacharyya** (eds. S. Bhattacharyya, S. De, I. Pan, and P. Dutta), “Dealing with Higher Dimensionality and Outliers in Content-Based Image Retrieval,” *Intelligent Multidimensional Data Clustering and Analysis*, pp. 109-134, IGI Global, USA, 2016, <https://doi.org/10.4018/978-1-5225-1776-4.ch005>.
39. J. Ray and **S. Bhattacharyya** (eds. V. Sugumaran, A. K. Sangaiah, and A. Thangavelu), “Conditional Value-at-Risk Based Portfolio Optimization Using Metaheuristic Approaches,” *Computational Intelligence Applications in Business Intelligence and Big Data Analytics*, CRC Press, 2016, <https://doi.org/10.1201/9781315180748-4>.
40. D. Konar, **S. Bhattacharyya**, B. K. Panigrahi, and M. K. Ghose (eds. S. Bhattacharyya, U. Maulik, and P. Dutta), “An Efficient Pure Color Image Denoising using Quantum Parallel Bi-Directional Self-Organizing Neural Network Architecture,” *Quantum Inspired Computational Intelligence: Research and Applications*, pp. 149-205, Morgan-Kaufmann, 2016, <https://doi.org/10.1016/B978-0-12-804409-4.00005-X>.
41. S. Dey, **S. Bhattacharyya**, and U. Maulik (eds. S. Bhattacharyya, U. Maulik, and P. Dutta), “Quantum Inspired Multi-objective SA for Bi-level Image Thresholding,” *Quantum Inspired Computational Intelligence: Research and Applications*, pp. 207-232, Morgan-Kaufmann, 2016, <https://doi.org/10.1002/9781119488767.ch7>.
42. H. Bhaumik, M. Chakraborty, **S. Bhattacharyya**, and S. Chakraborty (eds. S. Bhattacharyya, H. Bhaumik, S. De, and G. Klepac), “Detection of Gradual Transition in Videos: Approaches and Applications,” *Intelligent Analysis of Multimedia Information*, pp. 282-318, IGI Global, Hershey, USA, 2016, <https://doi.org/10.4018/978-1-5225-0498-6.ch011>.
43. H. Bhaumik, **S. Bhattacharyya**, and S. Chakraborty (eds. S. Bhattacharyya, H. Bhaumik, S. De, and G. Klepac), “Content Coverage and Redundancy Removal in Video Summarization,” *Intelligent Analysis of Multimedia Information*, pp. 352-374, IGI Global, Hershey, USA, 2016, <https://doi.org/10.4018/978-1-5225-0498-6.ch013>.
44. S. De, **S. Bhattacharyya**, and S. Chakraborty (eds. S. Bhattacharyya, P. Banerjee, D. Majumdar, and P. Dutta), “Multilevel and Color Image Segmentation by NSGA II Based OptiMUSIG Activation Function,” *Handbook of Research on Advanced Hybrid Intelligent Techniques and Applications*, pp. 321-348, IGI Global, Hershey, USA, 2015, <https://doi.org/10.4018/978-1-4666-9474-3.ch011>.
45. S. Dey, **S. Bhattacharyya**, and U. Maulik (eds. S. Bhattacharyya, P. Banerjee, D. Majumdar, and P. Dutta), “Optimum Gray Level Image Thresholding using a Quantum Inspired Genetic Algorithm,” *Handbook of Research on Advanced Hybrid Intelligent Techniques and Applications*, pp. 349-377, IGI Global, Hershey, USA, 2015, <https://doi.org/10.4018/978-1-4666-9474-3.ch012>.
46. H. Bhaumik, **S. Bhattacharyya**, and S. Chakraborty (eds. Ali Ismail Awad and M. Hassaallah), “Redundancy Elimination in Video Summarization,” *Image Feature Detectors Foundations, Innovations, and Applications*, pp. 173-202, Springer International Publishing AG, Cham, Switzerland, 2015, <https://doi.org/10.1007/978-3-319-28854-3.7>.
47. S. De and **S. Bhattacharyya** (eds. S. Bhattacharyya, P. Dutta, and S. Chakraborty), “Color Magnetic Resonance Brain Image Segmentation by ParaOptiMUSIG Activation Function: An Application,” *Hybrid Soft Computing Approaches: Research and Applications*, Springer India Ltd., pp. 185-214, 2015, <https://doi.org/10.1007/978-81-322-2544-7.6>.
48. S. Dey, **S. Bhattacharyya**, and U. Maulik, (eds. S. Bhattacharyya and P. Dutta), “Quantum Behaved Swarm Intelligent Techniques for Image Analysis: A Detailed Survey,” *Handbook of*

- Research on Swarm Intelligence in Engineering, IGI Global, Hershey, PA, USA, pp. 1-39, 2015, [https://doi.org/ 10.4018/978-1-5225-0788-8.ch034](https://doi.org/10.4018/978-1-5225-0788-8.ch034).
49. S. Chandra and **S. Bhattacharyya** (eds. S. Bhattacharyya and P. Dutta), "Quantum Inspired Swarm Optimization for Multi-Level Image Segmentation Using BDFSONN Architecture," Handbook of Research on Swarm Intelligence in Engineering, IGI Global, Hershey, PA, USA, pp. 286-326, 2015, [https://doi.org/ 10.4018/978-1-4666-8291-7.ch009](https://doi.org/10.4018/978-1-4666-8291-7.ch009).
  50. S. Dey, **S. Bhattacharyya**, and U. Maulik (eds. B. K. Tripathy and D. P. Acharjya), "Chaotic Map Model based Interference Employed in Quantum Inspired Genetic Algorithm to Determine the Optimum Gray Level Image Thresholding," Global Trends in Intelligent Computing Research and Development, IGI Global, Hershey, PA, USA, pp. 68-110, 2013, [https://doi.org/ 10.4018/978-1-4666-4936-1.ch004](https://doi.org/10.4018/978-1-4666-4936-1.ch004).
  51. S. De, **S. Bhattacharyya**, and S. Chakraborty (eds. B. K. Tripathy and D. P. Acharjya), "Efficient Color Image Segmentation by A Parallel Optimized (ParaOptiMUSIG) Activation Function," Global Trends in Intelligent Computing Research and Development, IGI Global, Hershey, PA, USA, pp. 19-50, 2013, [https://doi.org/ 10.4018/978-1-4666-4936-1.ch002](https://doi.org/10.4018/978-1-4666-4936-1.ch002).
  52. S. De, **S. Bhattacharyya**, and S. Chakraborty (eds. S. Bhattacharyya and P. Dutta), "Multilevel Image Segmentation by A Multiobjective Genetic Algorithm Based OptiMUSIG Activation Function," Handbook of Research on Computational Intelligence for Engineering, Science and Business, IGI Global, Hershey, PA, USA, pp. 122-162, 2012, [https://doi.org/ 10.4018/978-1-4666-2518-1.ch005](https://doi.org/10.4018/978-1-4666-2518-1.ch005).
  53. B. Chakraborty, **S. Bhattacharyya**, and S. Chakraborty (eds. S. Bhattacharyya and P. Dutta), "A Comparative Study of Unsupervised Video Shot Boundary Detection Techniques Using Probabilistic Fuzzy Entropy Measures," Handbook of Research on Computational Intelligence for Engineering, Science and Business, IGI Global, Hershey, PA, USA, pp. 228-240, 2012, [https://doi.org/ 10.4018/978-1-4666-2518-1.ch009](https://doi.org/10.4018/978-1-4666-2518-1.ch009).
  54. S. Bhattacharjee, **S. Bhattacharyya**, and N. K. Mondal (eds. S. Bhattacharyya and P. Dutta), "Quantum Backpropagation Neural Network Approach for Modeling of Phenol Adsorption from Aqueous Solution by Orange Peel Ash," Handbook of Research on Computational Intelligence for Engineering, Science and Business, IGI Global, Hershey, PA, USA, pp. 649-671, 2012, [https://doi.org/ 10.4018/978-1-4666-2518-1.ch025](https://doi.org/10.4018/978-1-4666-2518-1.ch025).
  55. B. Chakraborty, **S. Bhattacharyya**, and P. Dutta (eds. S. K. Pal, A. Petrosino, and L. Maddalena), "An unsupervised video shot boundary detection technique using fuzzy entropy estimation of video content," in Handbook on Soft Computing for Video Surveillance, Taylor & Francis, 2011, [https://doi.org/ 10.1201/b11631-13](https://doi.org/10.1201/b11631-13).
  56. **S. Bhattacharyya** and P. Dutta (eds. Md. A. Khan and A. Q. Ansari), "Fuzzy logic: concepts, system design and applications to industrial informatics," in Handbook of Research on Industrial Informatics and Manufacturing Intelligence: Innovations and Solutions, IGI Global, Hershey PA, USA, pp. 33-71, 2011, [https://doi.org/ 10.4018/978-1-4666-0294-6.ch003](https://doi.org/10.4018/978-1-4666-0294-6.ch003).
  57. P. Dutta, **S. Bhattacharyya**, and P. Bhattacharya (eds. Md. A. Khan and A. Q. Ansari), "Evolutionary computing: principles and applications to portfolio optimization," in Handbook of Research on Industrial Informatics and Manufacturing Intelligence: Innovations and Solutions, IGI Global, Hershey PA, USA, pp. 271-295, 2011, [https://doi.org/ 10.4018/978-1-4666-0294-6.ch012](https://doi.org/10.4018/978-1-4666-0294-6.ch012).
  58. **S. Bhattacharyya** (eds. V. Mago and N. Bhatia), "Neural networks: evolution, topologies, learning algorithms and applications," in Cross-Disciplinary Applications of Artificial Intelligence and Pattern Recognition: Advancing Technologies, IGI Global, Hershey PA, USA, pp. 450-498, 2011, [https://doi.org/ 10.4018/978-1-61350-429-1.ch024](https://doi.org/10.4018/978-1-61350-429-1.ch024).
  59. **S. Bhattacharyya**, U. Maulik, and S. Bandyopadhyay (eds. Ying Dai, Basabi Chakraborty, and Minghui Shi), "Soft Computing and its Applications," in Kansei Engineering and Soft

Computing: Theory and Practice, IGI Global, Hershey PA, USA, pp. 1-30, 2011, <https://doi.org/10.4018/978-1-61692-797-4.ch001>.

60. S. De, **S. Bhattacharyya** and P. Dutta (eds. J. Mehnen, M. Koeppen, A. Saad, and A. Tiwari), “Multilevel Image Segmentation using OptiMUSIC Activation Function with Fixed and Variable Thresholding: A Comparative Study”, in Applications of Soft Computing: From Theory to Praxis, Advances in Intelligent and Soft Computing, Springer-Verlag, Berlin, Heidelberg, pp. 53-62, 2009 <https://doi.org/10.1007/978-3-540-89619-7.6>.
61. **S. Bhattacharyya**, P. Dutta and D. DuttaMajumder (eds. Debjani Chakraborty, S. Nanda, and D. DuttaMajumder), “A parallel Self-Organizing Neural Network (SONN) based Color Object Extractor using MUSIC Activation Function with CONSENT”, in Fuzzy Logic and its Application in Technology and Management, pp. 206-213, Narosa Publishing House, New Delhi, India, 200, ISBN: 978-8173197338.

CONFERENCE  
PUBLICATIONS

1. R. Basu, R. Kumar, P. Sarkar, S. De, **S. Bhattacharyya**, J. Platos, V. Snasel, and A. E. Hassanien, “Fusion Based Technique for Underwater Image Enhancement,” in Proceedings of 2024 International Conference on Business Intelligence and Information Technology (BIIT 2024) (Accepted).
2. **S. Bhattacharyya**, S. De, J. Platos, V. Snasel, I. Pan, and A. Mukherjee, “Quantitative Assessment of Rubrics using a Fuzzy Approach,” in Human-Centric Smart Computing: Proceedings of ICHCSC 2024, 2024.
3. S. M. Turjya, R. Singh, P. Sarkar, A. Bandyopadhyay, S. Swain, **S. Bhattacharyya**, J. Platos, and V. Snasel, “Q-MAB: Resource allotment in Ad Hoc networks utilizing Quantum-enhanced Multi Arm Bandit resource allotment procedure,” in Human-Centric Smart Computing: Proceedings of ICHCSC 2024, 2024.
4. T. Dutta, **S. Bhattacharyya**, B. K. Panigrahi, J. Platos, and V. Snasel, “Automatic Hyperspectral Image Clustering using Qutrit Differential Evolution,” in Proceedings of the 2024 Fifteenth International Conference on Swarm Intelligence (ICSI 2024), Xining, China, 2024 (Accepted).
5. A. Sarkar, S. Mondal, D. Mukhopadhyay, S. De, **S. Bhattacharyya**, J. Platos, and L. Mrcic, “Educational Management System using Hybrid Blockchain Network,” in Proceedings of the 10th International Conference on Advanced Intelligent Systems and Informatics (AISI’24), Cairo, Egypt, 2024 (Accepted).
6. S. Samanta, A. P. Sen, D. Mukhopadhyay, S. De, **S. Bhattacharyya**, and Jan Platos, “A Brief Review on Different Machine Learning-Based Intrusion Detection Systems,” in Proceedings of the 10th International Conference on Advanced Intelligent Systems and Informatics (AISI’24), Cairo, Egypt, 2024 (Accepted).
7. M. Mitra, S. Roy, S. De, **S. Bhattacharyya**, J. Platos, V. Snasel, and A. E. Hassanien, “Harnessing LSTM Neural Networks and Hyperparameter Optimization for Precise Sales Forecasting in Retail,” in Proceedings of the 10th International Conference on Advanced Intelligent Systems and Informatics (AISI’24), Cairo, Egypt, 2024 (Accepted).
8. J. Saha, P. Pal, **S. Bhattacharyya**, J. Platos, and L. Mrcic (eds. S. Bhattacharyya, J. S. Banerjee, and M. Koeppen), “A Brief Outline of Quantum Internet,” in Human-Centric Smart Computing: Proceedings of ICHCSC 2023, pp. 607-623, 2024, <https://doi.org/10.1007/978-981-99-7711-6.48>.
9. A. Nag, P. Pal, **S. Bhattacharyya**, L. Mrcic, and J. Platos (eds. S. Bhattacharyya, J. S. Banerjee, and M. Köppen), “A Brief Review on Quantum Blockchain,” in Human-Centric Smart Computing: Proceedings of ICHCSC 2023, pp. 687-700, 2024, <https://doi.org/10.1007/978-981-99-7711-6.53>.

10. A. Gunjan and **S. Bhattacharyya** (eds. S. Bhattacharyya, G. Das, S. De, and L. Mrsic), "Portfolio optimization using quantum-inspired dynamic flower pollination optimizer," in *Intelligence Enabled Research: Proceedings of DoSIER 2023, 2024* (Accepted).
11. J. Saha, P. Pal, and **S. Bhattacharyya**, "Quantum Communication: Emerging Tools for Information Systems," in *Proceedings of The V All-Russian Scientific and Practical Conference on Software Engineering: Current Trends in Development and Application (PI-2021)*, Russia, 2023. (Accepted).
12. A. Gunjan and **S. Bhattacharyya**, "Portfolio optimization using quantum-inspired spider monkey optimization," in *Proceedings of The V All-Russian Scientific and Practical Conference on Software Engineering: Current Trends in Development and Application (PI-2021)*, Russia, 2023. (Accepted).
13. A. Ray, P. Das, **S. Bhattacharyya**, J. Platos, L. Mrsic, and A. E. Hassanien, "A Brief Review on Quantum Drug Design," in *Proceedings of BIIT 2023*, China (Accepted).
14. C. Pan, J. S. Banerjee, D. De, P. Sarigiannidis, A. Chakraborty, and **S. Bhattacharyya** (eds. S. Bhattacharyya, J. S. Banerjee, D. De, and M. Mahmud), "ChatGPT: A OpenAI Platform for Society 5.0," in *Intelligent Human Centered Computing: Proceedings of HUMAN 2023*, pp. 384-397, 2023, Springer Tracts in Human-Centered Computing. Springer, Singapore. [https://doi.org/10.1007/978-981-99-3478-2\\_33](https://doi.org/10.1007/978-981-99-3478-2_33).
15. D. Konar, A. Das Sarma, S. Bhandary, **S. Bhattacharyya**, A. Cangi, and V. Aggarwal, "Deep Spiking Quantum Neural Network for Noisy Image Classification," in *Proceedings of International Joint Conference on Neural Networks (IJCNN 2023)*, Queensland, Australia, 2023, <https://doi.org/10.1109/IJCNN54540.2023.10191509>.
16. T. Dutta, **S. Bhattacharyya**, and B. K. Panigrahi, "Multilevel Quantum Evolutionary Butterfly Optimization Algorithm for Automatic Clustering of Hyperspectral Image," in *Proceedings of 3rd International Conference on Artificial Intelligence and Computer Vision (AICV2023)*, Egypt, 2023, [https://doi.org/10.1007/978-3-031-27762-7\\_48](https://doi.org/10.1007/978-3-031-27762-7_48).
17. T. Dutta, **S. Bhattacharyya**, B. K. Panigrahi, and A. E. Hassanien (eds. A. E. Hassanien, D. Zheng, Z. Zhao, and Z. Fan), "Automatic Clustering of Hyperspectral Images using Quantum Reptile Search Algorithm," in *Business Intelligence and Information Technology: Proceedings of BIIT 2022*, China, pp. 653-664, 2022, [https://doi.org/10.1007/978-981-99-3416-4\\_52](https://doi.org/10.1007/978-981-99-3416-4_52).
18. A. Gunjan, **S. Bhattacharyya**, and A. E. Hassanien (eds. A. E. Hassanien, D. Zheng, Z. Zhao, and Z. Fan), "Portfolio optimization using quantum-inspired modified genetic algorithm," in *Business Intelligence and Information Technology: Proceedings of BIIT 2022*, China, pp. 665-673, 2022, [https://doi.org/10.1007/978-981-99-3416-4\\_53](https://doi.org/10.1007/978-981-99-3416-4_53).
19. R. Sarkar, **S. Bhattacharyya**, D. De, and A. K. Datta, "Landmark identification from low resolution real-time image for pose estimation," in *Proceedings of International Conference On Intelligent Systems And Human Machine Collaboration (ICISHMC 2022)*, Thane, India 2022, [https://doi.org/10.1007/978-981-19-8477-8\\_1](https://doi.org/10.1007/978-981-19-8477-8_1).
20. S. K. Sinha, D. Mukhopadhyay, and **S. Bhattacharyya**, "A Brief Review on the Role of Blockchain in Supply Chain Management," in *Proceedings of 1st International Conference on Human-Centric Smart Computing (ICHSCS 2022)*, 2022, [https://doi.org/10.1007/978-981-19-5403-0\\_11](https://doi.org/10.1007/978-981-19-5403-0_11). (Awarded the Best Paper Award).
21. D. Konar, **S. Bhattacharyya**, B. K. Panigrahi, and E. C. Behrman, "Qutrit-inspired Fully Self-supervised Shallow Quantum Learning Network for Image Segmentation," in *Proceedings of 16th Academic Research and Careers for Students Symposium (ARCS 22)*, Coimbatore, India.
22. A. Nayak, S. De, **S. Bhattacharyya**, D. Mukhopadhyay, K. Muhammad, and S. Gorbachev, "Envisaging an Intelligent Blockchain Network by Intelligence Sharing," in *Proceedings of 2022 International Conference for Advancement in Technology (IEEE ICONAT 2022)*, Goa, India, <https://doi.org/10.1109/ICONAT53423.2022.9725973>.

23. T. Dutta, **S. Bhattacharyya**, and S. Mukhopadhyay, “Automatic Clustering of Hyperspectral Images Using Qutrit Exponential Decomposition Particle Swarm Optimization,” in Proceedings of IEEE India Geoscience and Remote Sensing Symposium 2021 (InGARSS 2021), <https://doi.org/10.1109/InGARSS51564.2021.9791934>.
24. A. Nayak, D. Chowdhury, S. De, **S. Bhattacharyya**, K. Muhammad, and S. Gorbachev, “A Novel Intelligent Blockchain Framework With Intelligence Replication,” in Proceedings of 2021 Third International Conference on Advanced Computational and Communication Paradigms (ICACCP), pp. 661-672, 2022, [https://doi.org/10.1007/978-981-16-4369-9\\_63](https://doi.org/10.1007/978-981-16-4369-9_63).
25. T. Dutta, S. Dey, **S. Bhattacharyya**, and S. Mukhopadhyay, “Qutrit Based Genetic Algorithm for Hyperspectral Image Thresholding,” in Proceedings of 2020 Third International Symposium on Signal and Image Processing (ISSIP), [https://doi.org/10.1007/978-981-33-6966-5\\_3](https://doi.org/10.1007/978-981-33-6966-5_3).
26. A. Gunjan and **S. Bhattacharyya**, “A Brief Review of Intelligent Rule Extraction Techniques,” in Proceedings of 2020 Third International Symposium on Signal and Image Processing (ISSIP), [https://doi.org/10.1007/978-981-33-6966-5\\_12](https://doi.org/10.1007/978-981-33-6966-5_12).
27. M. Issaa, A. M. Helmi, M. Abd Elaziz, and **S. Bhattacharyya**, “Chaotic Ions Motion Optimization (CIMO) for Biological Sequences Local Alignment: COVID-19 as a Case Study,” in Proceedings of 2020 Third International Symposium on Signal and Image Processing (ISSIP), [https://doi.org/10.1007/978-981-33-6966-5\\_1](https://doi.org/10.1007/978-981-33-6966-5_1).
28. P. Kairon and **S. Bhattacharyya**, “COVID-19 Outbreak Prediction using Quantum Neural Networks,” in Intelligence Enabled Research: Proceedings of DoSIER 2020, pp. 124-134, 2020, [https://doi.org/10.1007/978-981-15-9290-4\\_12](https://doi.org/10.1007/978-981-15-9290-4_12).
29. **S. Bhattacharyya**, T. Dutta, and S. Dey, “Multilevel Quantum Inspired Fractional Order Ant Colony Optimization for Automatic Clustering of Hyperspectral Images,” in Proceedings of IEEE World Congress on Computational Intelligence (IEEE WCCI 2020), pp. 1-8, Glasgow, UK, 2020, <https://doi.org/10.1109/CEC48606.2020.9185589>.
30. A. Dey, **S. Bhattacharyya**, S. Dey, J. Platos, and V. Snasel, “Quantum-Inspired Bat Optimization Algorithm for Automatic Clustering of Grayscale Images,” in Proceedings of 2019 Second International Symposium on Signal and Image Processing (ISSIP), [https://doi.org/10.1007/978-981-13-6783-0\\_9](https://doi.org/10.1007/978-981-13-6783-0_9).
31. A. Mani, N. Mani, and **S. Bhattacharyya** (eds. **S. Bhattacharyya**, S. Mitra and P. Dutta), “Towards a Framework for Performance Testing of Metaheuristics,” in Intelligence Enabled Research: Proceedings of DoSIER 2019, pp. 13-20, 2019, [https://doi.org/10.1007/978-981-15-2021-1\\_3](https://doi.org/10.1007/978-981-15-2021-1_3).
32. T. Dutta, S. Dey, and **S. Bhattacharyya** (eds. S. Bhattacharyya, S. Mitra, and P. Dutta), “Automatic Clustering of Hyperspectral Images Using Qutrit Based Particle Swarm Optimization,” in Intelligence Enabled Research: Proceedings of DoSIER 2019, pp. 21-32, 2019, [https://doi.org/10.1007/978-981-15-2021-1\\_4](https://doi.org/10.1007/978-981-15-2021-1_4).
33. R. Jana, **S. Bhattacharyya**, and S. Das, (eds. S. Bhattacharyya, S. Mitra, and P. Dutta), “Patient-Specific Seizure Prediction Using the Convolutional Neural Networks”, in Intelligence Enabled Research: Proceedings of DoSIER 2019, pp. 51-60, 2019, [https://doi.org/10.1007/978-981-15-2021-1\\_7](https://doi.org/10.1007/978-981-15-2021-1_7).
34. R. Jana, **S. Bhattacharyya**, and S. Das, “Epileptic Seizure Prediction from EEG Signals Using DenseNet,” in Proceedings of The 2019 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2019), China, pp. 604-609, 2019, <https://doi.org/10.1109/SSCI44817.2019.9003059>.
35. D. Konar, **S. Bhattacharyya**, S. Dey, and B. K. Panigrahi, “Opti-QIBDS Net: A Quantum Inspired Optimized Self-supervised Neural Network for Automatic Brain MR Image Segmentation,” in Proceedings of TENCON 2019, pp. 761-766, 2019, <https://doi.org/10.1109/TENCON.2019.8929585>.

36. **S. Bhattacharyya**, S. Dey, and D. Konar, “A Novel Qutrit Based Quantum Ant Colony Optimization for Multi-level Thresholding,” in Proceedings of TENCON 2019, pp. 1375-1380, 2019, <https://doi.org/10.1109/TENCON.2019.8929561>.
37. D. Konar, **S. Bhattacharyya**, S. Dey, and B. K. Panigrahi, “QIBDS Net: A Quantum Inspired Self-Supervised Neural Network Architecture for Automatic Brain MR Image Segmentation,” in Proceedings of 8th International Conference on Pattern Recognition and Machine Intelligence (PReMI 2019), pp. 87-95, 2019, [https://doi.org/10.1007/978-3-030-34872-4\\_10](https://doi.org/10.1007/978-3-030-34872-4_10).
38. **S. Bhattacharyya**, S. Dey, J. Platos, V. Snasel, and T. Dutta, “Multilevel Quantum Sperm Whale Metaheuristic for Gray Level Image Thresholding,” in Proceedings of International Conference on Innovative Computing and Communication (ICICC-2019), Czech Republic, pp. 775-778, 2019, [https://doi.org/10.1007/978-981-15-1286-5\\_69](https://doi.org/10.1007/978-981-15-1286-5_69).
39. S. Sahni, V. Aggarwal, A. Khanna, D. Gupta, and **S. Bhattacharyya**, “Diagnosis of Parkinson’s Disease Using a Neural Network Based on QPSO,” in Proceedings of International Conference on Innovative Computing and Communication (ICICC-2019), Czech Republic, pp. 471-482, 2019, [https://doi.org/10.1007/978-981-15-1286-5\\_40](https://doi.org/10.1007/978-981-15-1286-5_40).
40. R. Das, S. De, **S. Bhattacharyya**, J. Platos, V. Snasel, and A. E. Hassanien (eds. A. E. Hassanien et al.), “Data Augmentation and Feature Fusion for Melanoma Detection with Content Based Image Classification,” in Proceedings of the 4th International Conference on Advanced Machine Learning Technologies and Applications (AMLTA 2019), Egypt, pp. 712-721, Springer Nature Switzerland AG, 2019, [https://doi.org/10.1007/978-3-030-14118-9\\_70](https://doi.org/10.1007/978-3-030-14118-9_70).
41. S. Dey, S. De, D. Ghosh, **S. Bhattacharyya**, D. Konar, and J. Platos, “A Novel Quantum Inspired Sperm Whale Meta-heuristic for Image Thresholding,” in Proceedings of 2019 Second International Conference on Advanced Computational and Communication Paradigms (ICACCP), 2019, <https://doi.org/10.1109/ICACCP.2019.8882905>.
42. **S. Bhattacharyya**, V. Snasel, A. Dey, S. Dey, and D. Konar, “Quantum Spider Monkey Optimization (QSMO) Algorithm for Automatic Gray-Scale Image Clustering,” in Proceedings of 2018 International Conference on Advances in Computing, Communications and Informatics (ICACCI), <https://doi.org/10.1109/ICACCI.2018.8554872>.
43. A. Chakraborty, K. S. Ray, S. Dutta, **S. Bhattacharyya**, and A. Koyla, “Species Inspired PSO based Pyramid Match Kernel Model (PMK) for Moving Object Motion Tracking” in Proceedings of 2018 Fourth IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), pp. 152-157, 2018, <https://doi.org/10.1109/ICRCICN.2018.8718716>.
44. A. Chakraborty, S. Dutta, **S. Bhattacharyya**, J. Platos, and V. Snasel, “Reinforcement Learning Inspired Deep Learned Compositional Model for Decision Making in Tracking,” in Proceedings of 2018 Fourth IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), pp. 158-163, 2018, <https://doi.org/10.1109/ICRCICN.2018.8718691>.
45. K. Chakraborty, R. Bag, and **S. Bhattacharyya**, “Relook into Sentiment Analysis performed on Indian Languages using Deep Learning,” in Proceedings of 2018 Fourth IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), pp. 208-213, 2018, <https://doi.org/10.1109/ICRCICN.2018.8718709>.
46. A. Mukherjee, S. De, **S. Bhattacharyya**, and J. Platos, “Chicago Crime Data Analysis Using PIG in Hadoop,” in Proceedings of 2018 Fourth IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), pp. 242-247, 2018, <https://doi.org/10.1109/ICRCICN.2018.8718725>.
47. A. Dey, **S. Bhattacharyya**, S. Dey, J. Platos, and V. Snasel, “Quantum Inspired BAT Optimization Algorithm for Automatic Clustering of Gray Scale Images,” in Proceedings of 2018 Second International Symposium on Signal and Image Processing (ISSIP), pp. 89-101, Kolkata, India, 2018, [https://doi.org/10.1007/978-981-13-6783-0\\_9](https://doi.org/10.1007/978-981-13-6783-0_9).

48. R. Jana and **S. Bhattacharyya**, “Character Recognition from Handwritten Image using Convolution Neural Networks,” in Proceedings of 2018 Second International Symposium on Signal and Image Processing (ISSIP), pp. 23-30, Kolkata, India, 2018, [https://doi.org/10.1007/978-981-13-6783-0\\_3](https://doi.org/10.1007/978-981-13-6783-0_3).
49. **S. Bhattacharyya**, V. Snasel, A. Dey, S. Dey, and D. Konar, “Quantum Spider Monkey (QSMO) Algorithm for Automatic Gray-Scale Image Clustering”, in Proceedings of 2018 International Conference on Advances in Computing, Communications and Informatics (ICACCI), Bangalore, India, 2018, <https://doi.org/10.1109/ICACCI.2018.8554872>.
50. D. Konar, K. Sharma, V. Sarogi, and **S. Bhattacharyya**, “A Multi-Objective Quantum-Inspired Genetic Algorithm (Mo-QIGA) for Real-Time Tasks Scheduling in Multiprocessor Environment”, in Proceedings of the 8th International Congress of Information and Communication Technology (ICICT 2018), pp. 591-599, Xiamen, China, <https://doi.org/10.1016/j.procs.2018.04.301>.
51. K. Ahmed, A. E. Hassanien, E. Ezzat, and **S. Bhattacharyya**, “Swarming behaviors of chicken for predicting posts on Facebook branding pages” in Proceedings of the 3rd International Conference on Advanced Machine Learning Technologies and Applications (AMLTA 2018), Egypt, Cairo, [https://doi.org/10.1007/978-3-319-74690-6\\_6](https://doi.org/10.1007/978-3-319-74690-6_6).
52. A. Dey, S. Dey, **S. Bhattacharyya**, V. Snasel, and A. E. Hassanien (eds. A. E. Hassanien, M. Tolba, M. Elhoseny, and M. Mostafa), “Simulated Annealing Based Quantum Inspired Automatic Clustering Technique” in Proceedings of the 3rd International Conference on Advanced Machine Learning Technologies and Applications (AMLTA 2018), vol. 723, pp. 73-81, Cairo, Egypt, [https://doi.org/10.1007/978-3-319-74690-6\\_8](https://doi.org/10.1007/978-3-319-74690-6_8).
53. K. Chakraborty, **S. Bhattacharyya**, R. Bag, and A. E. Hassanien (eds. A. E. Hassanien, M. Tolba, M. Elhoseny, and M. Mostafa), “Comparative Sentiment Analysis on a Set of Movie Reviews Using Deep Learning Approach” in Proceedings of the 3rd International Conference on Advanced Machine Learning Technologies and Applications (AMLTA 2018), vol. 723, pp. 311-318, Cairo, Egypt, [https://doi.org/10.1007/978-3-319-74690-6\\_31](https://doi.org/10.1007/978-3-319-74690-6_31).
54. A. G. Hussien, A. E. Hassanien, E. H. Houssein, **S. Bhattacharyya**, and M. Amin, “S-shaped binary whale optimization algorithm for feature selection” in Proceedings of First International Symposium on Signal and Image Processing (ISSIP 2017), pp. 79-87, Kolkata, India, [https://doi.org/10.1007/978-981-10-8863-6\\_9](https://doi.org/10.1007/978-981-10-8863-6_9)
55. M. A. Elfattah, A. E. Hassanien, S. Abuelenin, and **S. Bhattacharyya**, “Multi-verse optimization clustering algorithm for binarization of handwritten documents” in Proceedings of First International Symposium on Signal and Image Processing (ISSIP 2017), Kolkata, India, [https://doi.org/10.1007/978-981-10-8863-6\\_17](https://doi.org/10.1007/978-981-10-8863-6_17).
56. S. Das, S. De, **S. Bhattacharyya**, and A. E. Hassanien, “Color MRI image Segmentation using Quantum Inspired Modified Genetic Algorithm based FCM” in Proceedings of First International Symposium on Signal and Image Processing (ISSIP 2017), Kolkata, India, [https://doi.org/10.1007/978-981-10-8863-6\\_16](https://doi.org/10.1007/978-981-10-8863-6_16).
57. S. Dey, **S. Bhattacharyya**, V. Snasel, A. Dey, and S. Sarkar, “PSO and DE based Novel Quantum Inspired Automatic Clustering Techniques” in Proceedings of 2017 Third IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2017), pp. 285-290, Kolkata, India, <https://doi.org/10.1109/ICRCICN.2017.8234522>.
58. K. Ahmed, A. E. Hassanien, and **S. Bhattacharyya**, “A Novel Chaotic Chicken Swarm Optimization Algorithm for Feature Selection” in Proceedings of 2017 Third IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2017), pp. 259-264, Kolkata, India, <https://doi.org/10.1109/ICRCICN.2017.8234517>.

59. J. Datta, I. Pan, and **S. Bhattacharyya**, "TSLA: Turing based Service Level Agreement Assessment Model over Diverse Cloud Deployments" in Proceedings of 2017 Third IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2017), pp. 157-162, Kolkata, India, <https://doi.org/10.1109/ICRCICN.2017.8234499>.
60. B. Chakraborty, S. Chakraborty, and **S. Bhattacharyya**, "Video Shot Boundary Detection Using Optimum Support Vector Machine (SVM) Classifier" in Proceedings of The Research Scholar Colloquium-2016, IEST, Shibpur, India, 2016.
61. D. Konar, U. Chakraborty, **S. Bhattacharyya**, T. Gandhi, and B. K. Panigrahi, "A Quantum Parallel Bi-Directional Self-Organizing Neural Network (QPBDSONN) Architecture for Extraction of Pure Color Objects from Noisy Background" in Proceedings of 2016 International Conference on Advances in Computing, Communications and Informatics (ICACCI 2016), pp. 1921-1927, Jaipur, India, <https://doi.org/10.1109/ICACCI.2016.7732330>.
62. J. Ray, **S. Bhattacharyya**, and S. Dey, "Conditional Value-at-Risk Based Portfolio Optimization: An Ant Colony Optimization Approach" in Proceedings of International Conference on Global Business Environment: Strategies for Business Analytics and Cyber Security Management, IMI, Bhubaneswar, India, 2015. (Awarded the Best Paper Award).
63. B. Chakraborty, **S. Bhattacharyya**, and S. Chakraborty, "Video Shot Boundary Detection Using Support Vector Machine" in Proceedings of International Conference on Computer Science and Information Engineering, Ningbo, China, 2015.
64. J. Ray, **S. Bhattacharyya**, and A. M. Pal, "Conditional Value-at-Risk Based Portfolio Optimization Using Particle Swarm Optimization" in Proceedings of Fourth International Conference on Sustainability and Management Strategy (ICSMS 2015), Nagpur, India.
65. D. Konar, **S. Bhattacharyya**, N. Das, and B. K. Panigrahi, "A Quantum Bi-Directional Self-Organizing Neural Network (QBDSOINN) for Binary Image Denoising" in Proceedings of Fourth International Conference on Advances in Computing, Communications and Informatics (ICACCI-2015), pp. 1225-1230, Kochi, India, <https://doi.org/10.1109/ICACCI.2015.7275780>.
66. H. Bhaumik, **S. Bhattacharyya**, M. Chakraborty, and S. Chakraborty, "Dissolve Detection in Videos Using an Ensemble Approach" in Proceedings of Fourth International Conference on Advances in Computing, Communications and Informatics (ICACCI-2015), pp. 1461-1467, Kochi, India, <https://doi.org/10.1109/ICACCI.2015.7275818>.
67. S. Chandra, S. Paira, Sk. S. Alam, and **S. Bhattacharyya**, "A Rotation Based Encryption Technique Using Symmetric Key Method" in Proceedings of Third International Conference on Emerging Research in Computing, Information, Communication and Applications (ERCICA-15), pp 21-28, 2015, [https://doi.org/10.1007/978-81-322-2550-8\\_3](https://doi.org/10.1007/978-81-322-2550-8_3).
68. S. Paira, S. Chandra, Sk. S. Alam, and **S. Bhattacharyya**, "Symmetric Key Encryption Through Data Structure And Binary-Gray Conversion" in Proceedings of Third International Conference on Emerging Research in Computing, Information, Communication and Applications (ERCICA-15), pp 1-10, 2015, [https://doi.org/10.1007/978-81-322-2550-8\\_1](https://doi.org/10.1007/978-81-322-2550-8_1).
69. H. Bhaumik, **S. Bhattacharyya**, M. Das Nath, and S. Chakraborty, "Real-Time Storyboard Generation in Videos Using a Probability Distribution based Threshold" in Proceedings of 5th IEEE International Conference On Communication System and Network Technologies (CSNT-2015), pp. 425-431, Gwalior, India, <https://doi.org/10.1109/CSNT.2015.169>.
70. B. Chakraborty, **S. Bhattacharyya**, and S. Chakraborty, "An Unsupervised Approach to Video Shot Boundary Detection Using Fuzzy Membership Correlation Measure" in Proceedings of 5th IEEE International Conference On Communication System and Network Technologies (CSNT-2015), pp. 1136-1141, Gwalior, India, <https://doi.org/10.1109/CSNT.2015.57>.

71. **S. Bhattacharyya**, P. Pal, and S. Bhowmick, "A Quantum Parallel Self Organizing Neural Network (QPSONN) For Pure Color Object Extraction From A Noisy Background" in Proceedings of 5th IEEE International Conference On Communication System and Network Technologies (CSNT-2015), pp. 1129-1135, Gwalior, India, <https://doi.org/10.1109/CSNT.2015.55>.
72. H. Bhaumik, **S. Bhattacharyya**, M. Das, and S. Chakraborty, "Enhancement of Perceptual Quality in Static Video Summarization Using Minimal Spanning Tree Approach" in Proceedings of IEEE SPICES 2015, NIT Calicut, Kerala, India, pp. 226-232, 2015, <https://doi.org/10.1109/SPICES.2015.7091401>.
73. S. Chandra, **S. Bhattacharyya**, S. Paira, and Sk S. Alam, "A Study and Analysis on Symmetric Cryptography" in Proceedings of ICSEMR 2014, pp. 1-8, Chennai, India, 2014, <https://doi.org/10.1109/ICSEMR.2014.7043664>.
74. Sk S. Alam, **S. Bhattacharyya**, and S. Chandra, "A Novel Image Encryption Algorithm Using Hyper-chaos Key Sequences, Multi Step Group Based Binary Gray Conversion and Circular Bit Shifting Logic" in Proceedings of ICSEMR-2014, pp. 1-9, Chennai, India, 2014, <https://doi.org/10.1109/ICSEMR.2014.7043596>.
75. S. De, **S. Bhattacharyya**, and S. Chakraborty, "Automatic Data Clustering by Genetic Algorithm Validated by Fuzzy Intercluster Hostility Index" in Proceedings of 2014 Fourth International Conference on Emerging Applications of Information Technology, (EAIT 2014), pp. 58-63, 19-21 Dec, 2014, <https://doi.org/10.1109/EAIT.2014.36>.
76. S. De, **S. Bhattacharyya**, and S. Chakraborty, "Application of Pixel Intensity Based Medical Image Segmentation Using NSGA II Based OptiMUSIG Activation Function" in Proceedings of 2014 Sixth International Conference on Computational Intelligence and Communication Networks (CICN 2014), pp. 262-267, 14-16 Nov, 2014, <https://doi.org/10.1109/CICN.2014.67>.
77. S. Dey, **S. Bhattacharyya**, and U. Maulik, "Quantum Behaved Multi-objective PSO and ACO Optimization for Multi-level Thresholding" in Proceedings of 2014 Sixth International Conference on Computational Intelligence and Communication Networks (CICN 2014), pp. 242-246, 14-16 Nov, 2014, <https://doi.org/10.1109/CICN.2014.63>. (Awarded the Best Paper Award)
78. S. Chandra and **S. Bhattacharyya**, "Multilevel Image Segmentation using BDSONN Architecture Assisted by Quantum Inspired Ant Colony Optimization" in Proceedings of 2014 Sixth International Conference on Computational Intelligence and Communication Networks (CICN 2014), 14-16 Nov, pp. 273-277, 14-16 Nov, 2014, <https://doi.org/10.1109/CICN.2014.69>.
79. H. Bhaumik, A. Mukherjee, **S. Bhattacharyya**, and M. Chattopadhyay, "Towards Reliable Clustering of English Text Documents using Correlation Coefficient" in Proceedings of 2014 Sixth International Conference on Computational Intelligence and Communication Networks (CICN 2014), pp. 530-535, 14-16 Nov, 2014, <https://doi.org/10.1109/CICN.2014.121>.
80. S. Dey, **S. Bhattacharyya**, and U. Maulik, "Quantum Inspired Automatic Clustering for Multi-level Image Thresholding" in Proceedings of 2014 Sixth International Conference on Computational Intelligence and Communication Networks (CICN 2014), pp. 247-251, 14-16 Nov, 2014, <https://doi.org/10.1109/CICN.2014.64>.
81. H. Bhaumik, **S. Bhattacharyya**, S. Dutta, and S. Chakraborty, "Towards Redundancy Reduction in Storyboard Representation for Static Video Summarization" in Proceedings of 3rd International Conference on Advances in Computing, Communications and Informatics (ICACCI 2014), pp. 344-350, Noida, India, 09/2014, <https://doi.org/10.1109/ICACCI.2014.6968601>.
82. H. Bhaumik, **S. Bhattacharyya**, and S. Chakraborty, "An Unsupervised Method for Real Time Video Shot Segmentation" in Proceedings of DPRR Conference, pp. 307-318, New Delhi, 2014, <https://doi.org/10.5121/csit.2014.4531>.

83. S. Dey, **S. Bhattacharyya**, and U. Maulik, “New Quantum Inspired Tabu Search for Multi-level Colour Image Thresholding” in Proceedings of 8th International Conference On Computing for Sustainable Global Development (INDIACom-2014), pp. 311-316, BVICAM, New Delhi, <https://doi.org/10.1109/IndiaCom.2014.6828150>.
84. **S. Bhattacharyya**, Pankaj Pal, and Sandip Bhowmick, “A Quantum Multilayer Self Organizing Neural Network For Object Extraction From A Noisy Background” in Proceedings of 4th IEEE International Conference On Communication System and Network Technologies (CSNT-2014), pp. 512-517, NITTTR, Bhopal, <https://doi.org/10.1109/CSNT.2014.108>.
85. H. Bhaumik, **S. Bhattacharyya**, and S. Chakraborty, “Video Shot Segmentation Using Spatio-Temporal Fuzzy Hostility Index and Automatic Threshold” in Proceedings of 4th IEEE International Conference On Communication System and Network Technologies (CSNT-2014), pp. 501-506, NITTTR, Bhopal, <https://doi.org/10.1109/CSNT.2014.106>.
86. S. De, **S. Bhattacharyya**, and S. Chakraborty, “Color Image Segmentation by NSGA-II based ParaOptiMUSIG Activation Function” in Proceedings of IEEE International Conference on Machine Intelligence Research and Advancement (ICMIRA-2013), pp. 105-109, Katra, India, December, 2013, <https://doi.org/10.1109/ICMIRA.2013.27>.
87. S. Dey, **S. Bhattacharyya**, and U. Maulik, “Quantum Inspired Meta-heuristic Algorithms for Multi-level Thresholding for True Colour Images” in Proceedings of IEEE Indicon 2013, Mumbai, India, 12/2013, <https://doi.org/10.1109/INDCON.2013.6726024>.
88. S. Chandra, **S. Bhattacharyya**, and S. Chakraborty, “A Quantum Inspired Time Efficient OptiMUSIG Activation Function For Multilevel Image Segmentation” in Proceedings of IEEE Indicon 2013, Mumbai, India, 12/2013, <https://doi.org/10.1109/INDCON.2013.6725853>.
89. S. Dey, I. Saha, U. Maulik, and **S. Bhattacharyya**, “New Quantum Inspired Meta-heuristic Methods for Multi-level Thresholding” in Proceedings of 2013 International Conference on Advances in Computing, Communications and Informatics (ICACCI), pp. 1236-1240, 22-25 Aug., Mysore, 08/2013, <https://doi.org/10.1109/ICACCI.2013.6637354>.
90. K. Mondal, P. Dutta, and **S. Bhattacharyya**, “Efficient fuzzy rule base design using image features for image extraction and segmentation” in Proceedings of IEEE International Conference on Computational Intelligence and Communication Networks (CICN 2012), pp. 793-799, 3-5 Nov., Mathura, 2012, <https://doi.org/10.1109/CICN.2012.105>.
91. S. De, **S. Bhattacharyya**, S. Chakraborty, B. N. Sarkar, P. K. Prabhakar, and S. Bose, “Gray Scale Image Segmentation by NSGA-II based OptiMUSIG Activation Function” in Proceedings of International Conference on Communication Systems and Network Technologies (CSNT 2012), pp. 104-108, May 11-13, 2012, <https://doi.org/10.1109/CSNT.2012.32>.
92. K. Mondal, P. Dutta, and **S. Bhattacharyya**, “Gray Image extraction using Fuzzy Logic” in Proceedings of IEEE Second International Conference on Advanced Computing & Communication Technologies (ACCT 2012), pp. 289-296, 2012, <https://doi.org/10.1109/ACCT.2012.60>.
93. **S. Bhattacharyya** and S. Dey, “An Efficient Quantum Inspired Genetic Algorithm (QIGA) with a Chaotic Map Model Based Interference and Fuzzy Objective Function for Gray Level Image Thresholding” in Proceedings of International Conference on Computational Intelligence and Communication Networks (CICN 2011), pp. 121-125, Gwalior, India, <https://doi.org/10.1109/CICN.2011.24>.
94. S. S. Mukherjee, R. Chowdhury, and **S. Bhattacharyya**, “Image Restoration Using A Multilayered Quantum Backpropagation Neural Network” in Proceedings of International Conference on Computational Intelligence and Communication Networks (CICN 2011), pp. 426-430, Gwalior, India, <https://doi.org/10.1109/CICN.2011.89>.
95. **S. Bhattacharyya**, P. Dutta, S. Chakraborty, R. Chakraborty, and S. Dey, “Determination of Optimal Threshold of a Gray-level Image Using a Quantum Inspired Genetic Algorithm with Interference Based on a Random Map Model” in Proceedings of 2010 IEEE International

- Conference on Computational Intelligence and Computing Research (ICCIC 2010), pp. 422-425, Coimbatore, India, <https://doi.org/10.1109/ICCIC.2010.5705806>.
96. S. De, **S. Bhattacharyya**, and S. Chakraborty, "True Color Image Segmentation by an Optimized Multilevel Activation Function" in Proceedings of 2010 IEEE International Conference on Computational Intelligence and Computing Research (ICCIC 2010), 545-548, Coimbatore, India, <https://doi.org/10.1109/ICCIC.2010.5705833>.
  97. K. Dasgupta, **S. Bhattacharyya**, P. Dutta, and J. K. Mondal, "A Three Dimensional Bidirectional Self-Organizing Neural Network (3-DBDSONN) Architecture for Three Dimensional Object Extraction From A Noisy Perspective" in Proceedings of Second IEEE International Conference on Emerging Applications of Information Technology (EAIT 2011), Kolkata, India, <https://doi.org/10.1109/EAIT.2011.29>.
  98. S. De, **S. Bhattacharyya**, and S. Chakraborty, "A Genetic Algorithm based Automatic Image Clustering Technique Validated by Fuzzy Intercluster Hostility Index" in Proceedings of International Conference on Communications, Computers and Devices (ICCCD 2010), Kharagpur, India.
  99. P. Bhattacharya, **S. Bhattacharyya**, and P. Dutta, "Portfolio Selection Based On Multiobjective Optimization Of The Risk-Return Paradigm" in Proceedings of National Conference on Global Management – Cultural Changes, Pune, 2010.
  100. S. De, **S. Bhattacharyya**, and P. Dutta, "Automatic Clustering by DE Algorithm Validated by Fuzzy Intercluster Hostility Index" in Proceedings of International Conference on Emerging Trends in Computer Science, Communication and Information Technology (CSCIT'10), Nanded, India, 2010.
  101. A. Chowdhury and **S. Bhattacharyya**, "Image Edge Detection Using Rough Pixel Neighborhood Hostility Index" in Proceedings of International Conference on Emerging Trends in Computer Science, Communication and Information Technology (CSCIT'10), Nanded, India, 2010.
  102. S. De, **S. Bhattacharyya**, and P. Dutta, "A Differential Evolution Algorithm Based Automatic Determination of Optimal Number of Clusters Validated by Fuzzy Intercluster Hostility Index" in Proceedings of First IEEE International Conference on Advanced Computing (ICAC09), pp. 105-111, Chennai, India, 2009, <https://doi.org/10.1109/ICADVC.2009.5378262>.
  103. K. Dasgupta, **S. Bhattacharyya**, and P. Dutta, "A Three-Dimensional Self Organizing Neural Network Architecture For Three-Dimensional Object Extraction From A Noisy Perspective" in Proceedings of First IEEE International Conference on Advanced Computing (ICAC09), pp. 141-147, Chennai, India, 2009, <https://doi.org/10.1109/ICADVC.2009.5378210>.
  104. S. De, **S. Bhattacharyya**, and P. Dutta, "Automatic Image Clustering by Genetic Algorithm Validated by Fuzzy Intercluster Hostility Index and Classical DE: A Comparative Study" in Proceedings of National Conference on Ubiquitous Computing (NCUBQT 2009), pp. 12-17, Kolkata, India, 2009.
  105. A. Chowdhury, H. Bhaumik, B. Chakraborty, and **S. Bhattacharyya**, "Image Edge Detection Using Pixel Roughness" in Proceedings of National Conference on Ubiquitous Computing (NCUBQT 2009), pp. 18-23, Kolkata, India, 2009.
  106. P. Bhattacharya, **S. Bhattacharyya**, and P. Dutta, "Evolving optimized portfolio asset allocations using Value-at-Risk" in Proceedings of National Conference on Modern Management Practices and Information Technology Trends (MMPITT-2009), pp. 147-152, Jalandhar, India, 2009.
  107. S. De, **S. Bhattacharyya**, and P. Dutta, "Optimized Multilevel Image Segmentation: A Comparative Study" in Proceedings of IEEE National Conference on Computing and Communication Systems (CoCoSys-09), pp. 200-205, Burdwan, India, 2009.

108. K. Mondal, P. Dutta, **S. Bhattacharyya**, and B. Maiti, “An Enhanced FRB-based Noise-Immune Binary Image Segmentation Technique” in Proceedings of IEEE National Conference on Computing and Communication Systems (CoCoSys-09), pp. 147-152, Burdwan, India, 2009.
109. S. De, **S. Bhattacharyya**, and P. Dutta, “OptiMUSIG: An Optimized Gray Level Image Segmentor” in Proceedings of 16th International Conference on Advanced Computing and Communication (ADCOM 2008), pp. 78-87, Chennai, India, 2008, <https://doi.org/10.1109/ADCOM.2008.4760431>.
110. S. De, **S. Bhattacharyya**, and P. Dutta, “Multilevel Image Segmentation using Variable Threshold Based OptiMUSIG Activation Function” in Proceedings of National Conference on Nanotechnology And Its Application in Quantum Computing (NAQC 2008), Kolkata, India, pp. 44-51, 2008.
111. K. Mondal, P. Dutta, **S. Bhattacharyya**, and B. Maiti, “A Noise Immune Binary Image Segmentation using Enhanced Fuzzy Rule Base” in Proceedings of National Conference on Nanotechnology And Its Application in Quantum Computing (NAQC 2008), pp. 131-137, Kolkata, India, 2008.
112. K. Dasgupta, **S. Bhattacharyya**, and P. Dutta, “A Neuro-Fuzzy Approach for 3D Object Detection and Extraction” in Proceedings of SPIT-IEEE Colloquium and International Conference, vol. 1, pp. 217-222, Mumbai, India, 2008.
113. K. Mondal, P. Dutta, and **S. Bhattacharyya**, “An Efficient Fuzzy Rule Based Binary Image Segmentation” in Proceedings of IEEE International Conference on Recent Applications of Soft Computing in Engineering and Technology (RASJET-07), pp. 622-634, Jalandhar, India, 2007.
114. **S. Bhattacharyya**, P. Dutta, U. Maulik, and P. K. Nandi, “Pure color object extraction using a parallel bi-directional self-organizing neural network (PBDSONN) architecture” in Proceedings of National Conference on Recent Trends in Intelligent Computing (RTIC 2006), pp. 79-85, Kalyani, India, 2006.
115. S. De, P. De, **S. Bhattacharyya**, and P. Dutta, “Shape factor based classification and recognition of similar shaped Bangla printed consonant characters” in Proceedings of National Conference on Recent Trends in Intelligent Computing (RTIC 2006), pp. 101-106, Kalyani, India, 2006.
116. **S. Bhattacharyya**, P. Dutta, and U. Maulik, “Fuzzy Context Sensitive Thresholding Guided Bidirectional Self Organizing neural Network (BDSONN): A Gray Scale Object Extractor” in Proceedings of International Conference on Intelligent Sensing and Information Processing (ICISIP 2006), pp. 165-168, 2006, <https://doi.org/10.1109/ICISIP.2006.4286087>.
117. M. Ghosh, N. Sarkar, K. Konar, S. Hazra, **S. Bhattacharyya**, and B. Roy, “Energy Efficient Intelligent Lighting Control Using a Multilayer Feedforward Neural Network” in Proceedings of National Conference on Recent Trends in Information Systems (ReTIS 2006), pp. 77-80, Jadavpur, India, 2006.
118. **S. Bhattacharyya**, P. Dutta, and P. K. Nandi, “True Color Object Extraction By A Parallel Self Organizing Neural Network (PSONN) Architecture Guided By XMUBET With CONSENT” in Proceedings of EAIT 2006, pp. 295-299, Kolkata, India, 2006.
119. **S. Bhattacharyya**, P. Dutta, and U. Maulik, “A bi-directional self-organizing neural network architecture for object extraction from a noisy background” in Proceedings of International Conference on Optics & Optoelectronics (ICOL), Dehra Dun, India, 2005.
120. **S. Bhattacharyya**, P. Dutta, and U. Maulik, “Designing Structural Elements of Optimum size for Morphological Operations on Geometrical Primitives using Fuzzy Rule Base” in Proceedings of International Workshop on Spatial Issues in Language and Vision (SILV 2005), pp. 55 – 61, Kanpur, India 2005.

121. **S. Bhattacharyya**, P. Dutta, and U. Maulik, "MUSIG and MUBET guided PSONN based color object extraction: A Comparative Study" in Proceedings of 8th International Conference on Information Technology, pp. 236-241, 2005.
122. **S. Bhattacharyya**, P. Dutta, and U. Maulik, "Graded color object extraction by a Parallel Self-Organizing Neural Network (PSONN) architecture guided by a MUBET activation function" in Proceedings of the International Conference on Intelligent Systems (ICIS 2005), Kuala Lumpur, Malaysia, 2005.
123. **S. Bhattacharyya**, P. Dutta, K. Dasgupta, and A. Basu, "Multiple target tracking using pixel hostility based segmentation of optical flow field" in Book of Abstracts of SOOP 05, pp. 56-58, 2005.
124. **S. Bhattacharyya** and P. Dutta, "Designing pruned multilayer self organizing neural network (MLSONN) for object extraction from a noisy background" in Book of Abstracts of SOOP 05, pp. 131-132, 2005.
125. **S. Bhattacharyya** and P. Dutta, "XMUSIG with CONSENT: Pixel Hostility Induced Multiscale Object Extractor" in Proceedings of International Conference on Intelligent Sensing and Information Processing (ICISIP 2005), Chennai, India.
126. **S. Bhattacharyya** and P. Dutta, "XMUBET with CONSENT: A Pixel Hostility Induced Multiscale Object Extractor" in Proceedings of IEEE International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP'04), pp. 277-282, Melbourne, Australia, 2004, <https://doi.org/10.1109/ISSNIP.2004.1417475>.
127. **S. Bhattacharyya** and P. Dutta, "Multiscale Object Extraction with MUSIG and MUBET with CONSENT: A Comparative Study" in Proceedings of KBCS 2004, pp. 100-109, Hyderabad, India, 2004.
128. K. Dasgupta, **S. Bhattacharyya**, and P. Dutta, "Pure Color Object Extraction: A Distributed Approach" in Proceedings of ObComAPC 2004, Vellore, India, 2004.
129. **S. Bhattacharyya** and P. Dutta, "A Parallel Self-Organizing Neural Network Architecture For Extraction of Graded Color Objects" in Proceedings of International Conference on Recent Trends and New Directions of Research in Cybernetics & Systems Theory, Guwahati, India, 2004.
130. **S. Bhattacharyya**, P. Dutta, and D. DuttaMajumder, "Multiscale Object Extraction Using A Self-Organizing Neural Network With Multilevel Beta Activation Function and its Sigmoidal Counterpart: A Comparative Study" in Proceedings of International Conference on Recent Trends and New Directions of Research in Cybernetics & Systems Theory, Guwahati, India, 2004.
131. **S. Bhattacharyya**, U. Maulik, and S. Bandyopadhyay, "A Fuzzy Cardinality Based Approximation for Extracting Multi-Scale Objects From Noisy Background Using Self Organizing Neural Network" in Proceedings of International Conference on Communications, Devices and Intelligent Systems, pp. 461-464, Jadavpur, India, 2004.
132. P. Dutta, **S. Bhattacharyya**, and K. Dasgupta, "Multi-Scale Object Extraction Using A Self Organizing Neural Network With A Multi-Level Beta Activation Function" in Proceedings of International Conference on Intelligent Sensing and Information Processing, pp. 139-142, Chennai, India, 2004, <https://doi.org/10.1109/ICISIP.2004.1287640>.
133. **S. Bhattacharyya**, P. Dutta, and U. Maulik, "Multi-Scale Object Extraction Using Self Organizing Neural Network With A Multi-Level Sigmoidal Activation Function" in Proceedings of 5th International Conference on Advances in Pattern Recognition, pp. 435-438, Kolkata, India, 2003.
134. **S. Bhattacharyya** and K. Dasgupta, "Color Object Extraction From A Noisy Background Using Parallel Multi-layer Self-Organizing Neural Networks" in Proceedings of CSI-YITPA (E) 2003, pp. 32-36, Kolkata, India, 2003.

135. **S. Bhattacharyya**, P. Dutta, and U. Maulik, "Multiple Target Tracking Using Self-Organizing Neural Network Based Segmentation of Optical Flow Field" in Proceedings of Conference on Recent Trends in Manufacturing, pp. 369-376, Kalyani, India, 2003.
136. **S. Bhattacharyya**, U. Maulik, and S. Bandyopadhyay, "A Fuzzy Approach For Extracting Objects From Noisy Background Using Self Organizing Map" in Proceedings of 5th International Conference on Information Technology, pp. 285-290, Bhubaneswar, India, 2002.
137. **S. Bhattacharyya**, U. Maulik, and S. Bandyopadhyay, "A Tabu Search Approach To Design Optimum Hopfield Network For Object Extraction Using Fuzzy Cardinality Based Thresholding" in Proceedings of Conference on Fuzzy Set Theory and Its Mathematical Aspects and Applications, 104-108, Varanasi, India, 2002.
138. **S. Bhattacharyya**, U. Maulik, and S. Bandyopadhyay, "Fuzzy Rule Base Design For Evolving Optimum Structural Element For High Speed Target Tracking Using Self Windowing" in Proceedings of Conference on Fuzzy Set Theory and Its Mathematical Aspects and Applications, pp. 99-103, Varanasi, India, 2002.
139. **S. Bhattacharyya**, U. Maulik, and S. Bandyopadhyay, "Efficient Object Extraction Using Fuzzy Cardinality Based Thresholding And Hopfield Network" in Proceedings of 3rd National Conference On Computer Vision, Graphics and Image processing, pp. 271-275, Ahmedabad, India, 2002.
140. S. Munshi, **S. Bhattacharyya**, and A. K. Datta, "Photonic Implementation of Hopfield Neural Network for associative pattern recognition" in Proceedings of SPIE, vol. 4417, pp. 558-562, 2001, <https://doi.org/10.1117/12.441352>.
141. A. K. Datta, S. Munshi, and **S. Bhattacharyya**, "Object Extraction In Artificial Retina Using Cellular Neural Network Optimized By Genetic Algorithm With Fuzziness Measure" in Proceedings of International Conference on Fiber Optics and Photonics, vol. 2, pp. 723-725, Kolkata, India, 2000.

#### PATENTS

1. J. S. Banerjee, A. Basu, S. Bhandary, **S. Bhattacharyya**, D. Chowdhury, A. Das Sarma, S. De, S. Dhar, M. Hijji, M. Köppen, R. Mahapatra, K. Muhammad, L. Mrsic, J. Platos, H. Roy, and V. Snasel, "A cloud-based distributed intelligent color measurement system for predicting the color purity of any object," Patent Application No. 202022103464.8, 2022. (**Granted [Germany]**)
2. **S. Bhattacharyya**, S. Dhar, H. Roy, A. Mukhopadhyay, A. Kundu, S. Roy, A. Ghosh, J. Platos, S. Gorbachev, V. Kuzin, L. Mrsic, D. De, K. Dasgupta, B. Gusev, and D. Yue, "Underwater Image Enhancement Device and Method to Capture and Process Underwater Images," Patent Application No. 2021/10564, 2022. (**Granted [South Africa]**)
3. **S. Bhattacharyya**, R. Mahapatra, A. Das Sharma, S. Bhandary, D. Chowdhary, A. Basu, H. Roy, S. Dhar, and J. Platos, "Cloud based Distributed Internet of Things Enabled Intelligent Colorimeter using Color LEDS," Patent No. 530802, Patent Application No. 202131047448, 2024. (Granted)
4. S. Dhar, H. Roy, A. Mukhopadhyay, A. Kundu, A. Ghosh, S. Roy, and **S. Bhattacharyya**, J. Platos, S. Gorbachev, and V. Kuzin, "Underwater Image Enhancement Device Using Interval Type-2 Fuzzy Based CNN," Patent Application No. 202131036933, 2021. (Published)
5. T. Dutta, **S. Bhattacharyya**, J. Platos, V. Snasel, L. Mrsic, S. V. Gorbachev, M. Bobyr, K. Muhammad, A. Arkhipov, N. Gorbacheva, N. Milostnaya, S. Ahmed, and G. Klepac, "Automated Hyperspectral Image Clustering Using Multilevel Quantum Differential Evolution on Quantum Hardware," Patent Application No. 202141013977, 2021. (**Granted [Australia]**)
6. T. Dutta and **S. Bhattacharyya**, "Automated Hyperspectral Image Clustering Using Multilevel Quantum Differential Evolution on Quantum Hardware," Patent Application No. 202141013977, 2021. (Published)

7. **S. Bhattacharyya**, A. Basu, S. S. Roy, P. Chakrabarti, S. De, D. Konar, D. Samanta, T. Dutta, S. Dey and D. Mukhopadhyay, “A Microcontroller based Low-Cost Electronic Locking System using 2-Way Authentication,” Patent Application No. 2021101384, 2021. (**Granted [Australia]**)
8. **S. Bhattacharyya**, A. Basu, S. De, J. Platos, V. Snasel and L. Mrsic, “A Multilevel Image Segmentation Hardware,” Patent Application No. 202131005895, 2021. (**Granted [Australia]**)
9. **S. Bhattacharyya**, A. Basu, S. De, J. Platos, V. Snasel and L. Mrsic, “A Multilevel Image Segmentation Hardware,” Patent Application No. 202131005895, 2021. (Published [India])
10. **S. Bhattacharyya**, A. Basu, S. S. Roy, P. Chakrabarti, S. De, D. Konar, D. Samanta, T. Dutta, S. Dey and D. Mukhopadhyay, “A Microcontroller based Low Cost Electronic Locking System using 2-Way Authentication,” Patent Application No. 202041036194, 2020. (Published)
11. D. Konar, R. Rakshit, S. Dey, D. Samanta, H. Pal, K. Sharma and **S. Bhattacharyya**, “Automatic Detection of Violence Activity - A Tool for Women’s Safety,” Patent Application No. 202041006858, 2020. (Published)
12. A. Basu, **S. Bhattacharyya**, S. Das, R. Kamal, T. S. Das, S. Bal and R. Das, “Low Power and High Speed Floating Point Divider,” Patent Application No. 201931039920 A, 2019. (Published)
13. R. Das, A. Basu, **S. Bhattacharyya**, S. De and N. Dey, “An Image Feature Fusion Hardware System for Faster Convergence of Classification,” Patent Application No. 201831036280 dated 26.09.2018. (**Granted**)
14. **S. Bhattacharyya**, S. S. Mukherjee, P. Dutta, S. Chakraborty, B. Roy, B. Chakraborty, I. Pan, H. Bhaumik and A. Mukherjee, “A LED Based Colorimeter,” PCT No. WO 2017/029681 A1. (Published)
15. S. Roy, P. Dutta, D. Mukhopadhyay and S. Bhattacharyya, ‘ ‘A Portable X-RAY System Based on The Molecular Quantum Dot Cellular Automata,” Patent Application No. 201631033793 dated 31.01.2024 (**Granted**); PCT No. WO/2018/065828 dated 12.04.2018. (Published), Pub. No. WO/2018/065828; Publication Date: 12.04.2018; International Application No.: PCT/IB2017/050329; International Filing Date: 23.01.2017.
16. P. Dutta, D. Mukhopadhyay and S. Bhattacharyya, “Design of Energy efficient Bug Zapper System using QCA based Nano Technology,” 2017. (Filed), IPO Number with Filing date 201731011403; 29/03/2018.
17. P. Dutta, D. Mukhopadhyay and S. Bhattacharyya, Low Power Ultra Violet Ray Generating Unit for Light Therapy using QCA based Nanotechnology, 2017. (Filed), IPO Number with Filing date 201731011398; 29/03/2018.
18. P. Dutta, D. Mukhopadhyay, S. Bhattacharyya and P. Bhattacharya, QM CT-Scan : A Molecular Quantum Dot Cellular Automata Computed Tomography Scan System, 2017. (Filed), IPO Number with Filing date 201731011402; 29/03/2018.
19. P. Dutta, D. Mukhopadhyay and S. Bhattacharyya, A Molecular QCA Based UV Lamp for Water Purification, Patent Application No. 201731011405; filing date: 30/09/2007 (**Granted; date of grant: 13.09.2022**).
20. **S. Bhattacharyya**, S. S. Mukherjee, P. Dutta, S. Chakraborty, B. Roy, B. Chakraborty, I. Pan, H. Bhaumik and A. Mukherjee, “Low Cost Intelligent Colorimeter Using Color LEDs”, Indian Patent No. 886/KOL/2015 dated 14.08.2015 (**Granted**).

1. Md. H. J. Hossain, A. Dasgupta, H. Roy, S. Dhar, and **S. Bhattacharyya**, "TRANSIT-MATE: A Smart Transportation and Parking System," Registration No. SW-19263/2024, 2024 (Registered).
2. H. Roy, S. Adhikary, S. Dhar, and **S. Bhattacharyya**, "A Fuzzy Based Inference System to Detect and Recognize the Text from Real Video in Low Light Conditions with Low Computational Cost," Registration No. SW-19204/2024, 2024 (Registered).
3. H. Roy, S. Bhar, S. Bhunia, S. Dhar, S. Mukherjee, and **S. Bhattacharyya**, "Registering Cyber Crimes Using AI Driven Chatbot With Identity Verification," Registration No. SW-18630/2024, 2024 (Registered).
4. A. Deyasi, D. Barai, P. Debnath, and **S. Bhattacharyya**, "Real Time Facial and Object Detection and Recognition with Relative Distance Prediction for Visually Impaired Person," Diary No. 10123/2024-CO/SW, 2024 (Filed).
5. H. Roy, Md. H. J. Hossain, Md. S. Khan, A. Dasgupta, A. Sen, R. Sengupta, S. Saha, S. Dhar, and **S. Bhattacharyya**, "Live Saver Connect: An Automated Ambulance and Hospital Booking System," Diary No. 2826/2024-CO/SW, 2024 (Filed).
6. H. Roy, Md. H. J. Hossain, A. Dasgupta, S. Dhar, and **S. Bhattacharyya**, "Smart city life using automated streetlight, railway crossing, parking, and traffic management systems," Registration No. SW-18364/2024, 2024 (Registered).
7. H. Roy, K. Banerjee, S. Dhar, and **S. Bhattacharyya**, "Fuzzy Type-2 set based color image enhancement using region of uncertainty," Diary No. 4587/2024-CO/SW, 2024 (Filed).
8. H. Roy, N. Ghosh, S. Dey, P. S. Purkait, S. Dhar, and **S. Bhattacharyya**, "Latest CNN model based accurate skin cancer classification," Registration Diary No. SW-18704/2024, 2024 (Registered).
9. J. Banerjee, A. Basu, P. Dey, S. De, and **S. Bhattacharyya**, "Intelligent Plant Growth Monitoring," Diary No. 9256/2023-CO/SW, 2023 (Filed).
10. N. Adhikari, S. Bhattacharyya, M. Sultana, D. Sengupta, and **S. Bhattacharyya**, "MBSIF: A Deep CNN Framework for Migrated Bird Species Identification in West Bengal Region, India," Registration No. L-121655/2023, 2023 (Registered).
11. S. S. Khan, D. Sengupta, A. Ghosh, **Siddhartha Bhattacharyya**, and A. Chaudhuri, "Intelligent Decision System for Dynamic Detection of Chucking in Cricket," Registration No. L-121611/2023, 2023 (Registered).
12. S. Debnath, S. De, and **S. Bhattacharyya**, "Picrypt - Inscribe Images with Texts," Registration No. L-117128/2022, 2022 (Registered).
13. S. S. Khan, D. Sengupta, A. Ghosh, **Siddhartha Bhattacharyya**, and A. Chaudhuri, "Privy Analyst: A computer vision powered full-body motion analysis tool for tracking multi-purpose activities in sports and exercises," Registration No. L-120633/2023, 2023.
14. S. Imran, Pradeep N., M. M. Ghonge, P. Chakrabarti, T. Chakrabarti, and **S. Bhattacharyya**, "Framework for Classification of Tumors using Ensemble Machine Learning and Deep Learning Approaches," Registration No. L-109562/2021, 2021.
15. Pradeep. N., M. M. Ghonge, P. Chakrabarti, B. T. Hung, T. Chakrabarti, and **S. Bhattacharyya**, "Plant Identification based on Heterogeneous Features of Leaf using Multiclass Support Vector Machines," Diary No. 20379/2021-CO/L, 2021 (Filed).
16. **S. Bhattacharyya**, "A Contact Less Ticketing System based on Iris Recognition," Registration No. L-107663/2021, dated 15/09/2021.
17. M. V. Bobyr, N. A. Milostnaya, N. I. Khrapova, M. A. Lamonov, and **S. Bhattacharyya**, "Traffic light control software based on fuzzy logic," Registration No. RU2021661796 dated 15/07/2021.

18. S. Debnath, S. De and **S. Bhattacharyya**, “CameraSHOT,” Registration No. L-103549/2021 dated 21.05.2021.
19. T. Dutta and **S. Bhattacharyya**, “Unsupervised Spectral-Spatial Clustering of Hyperspectral Images using Enhanced Multilevel Quantum Inspired Differential Evolution,” Registration No. L-101323/2021 dated 05.04.2021.
20. D. Mukhopadhyay and **S. Bhattacharyya**, “Protocols in Designing Blockchain Platform for Real-time Transactions,” Registration No. L-99716/2021 dated 23.02.2021.
21. S. Dhar, H. Roy, A. Mukhopadhyay, A. Kundu, A. Ghosh, S. Roy and **S. Bhattacharyya**, “Fuzzy Based Real Time Underwater Image Enhancement Device”, Registration No. L-99566/2021 dated 17.02.2021.
22. **S. Bhattacharyya**, “A Low Cost Electronic Lock Using 2-WAY Authentication,” Registration No. L-91874/2020 dated 05.06.2020.
23. **S. Bhattacharyya**, “An Approach On IoT Based Low Cost Intelligent Colorimeter,” Registration No. L-96120/2020 dated 27/10/2020.

#### TRADEMARKS

1. **S. Bhattacharyya**, “DoSIER”, Trade Marks Journal No: 1984, Class 42, pp. 5192, 25/01/2021.
2. **S. Bhattacharyya**, “ISSIP”, Trade Marks Journal No: 2039, Class 42, pp. 268, 14/02/2022.

#### BOOKS AND PERIODICALS

1. Editor of **The Role of Blockchain in Disaster Management**; Publisher: Elsevier Academic Press, USA; Co-editors: Dr. Ayan Kumar Das, Birla Institute of Technology, Mesra, India, Dr. Ditipriya Sinha, National Institute of Technology, Patna, India, and Prof (Dr.) Debashis De, Maulana Abul Kalam Azad University of Technology, West Bengal, India; ISBN: 9780443134722, 2024.
2. Editor of **Recent Trends in Swarm Intelligence Enabled Research for Engineering Applications**; Publisher: Elsevier Academic Press, USA; Co-editors: Prof. (Dr.) Mario Köppen, Kyushu Institute of Technology, Japan, Prof (Dr.) Debashis De, Maulana Abul Kalam Azad University of Technology, West Bengal, India, and Prof. (Dr.) Bijaya Ketan Panigrahi, Indian Institute of Technology - Delhi, New Delhi, India; ISBN: 9780443155338, 2024.
3. Editor of **Intelligent Quantum Information Processing**; Publisher: CRC Press, USA; Co-editors: Dr. Ivan Cruz, Centre for Research in Mathematics (CIMAT), Mexico, Prof. Arpan Deyasi, RCC Institute of Information Technology, Kolkata, India, Prof. Pampa Debnath, RCC Institute of Information Technology, Kolkata, India and Dr. Rajarshi Mahapatra, IIIT Naya Raipur, CG, India; ISBN: 9781032392677, 2024.
4. Editor of **Intelligent Communication Networks: Research and Applications**; Publisher: CRC Press, USA; Co-editors: Dr. Rajarshi Mahapatra, IIIT Naya Raipur, CG, India and Dr. Avishek Nag, University College Dublin, Dublin, Ireland; ISBN: 9781032300214, 2024.
5. Editor of **Recent Trends in Intelligence Enabled Research: Selected Papers of Fifth Doctoral Symposium, DoSIER 2023**; Publisher: Springer; Co-editors: Prof. (Dr.) Goutam Das, Cooch Behar Government Engineering College, Cooch Behar, India; Dr. Sourav De, Cooch Behar Government Engineering College, Cooch Behar, India, and Dr. Leo Mrcic, Algebra University, Zagreb, Croatia; ISBN: 978-981-97-2320-1, 2024.
6. Editor of **Human-Centric Smart Computing: Proceedings of ICHCSC 2023**; Publisher: Springer; Co-editors: Prof. (Dr.) Jyoti Sekhar Banerjee, Bengal Institute of Technology, Kolkata, India and Prof. (Dr.) Mario Koeppen, Kyushu Institute of Technology, Japan; ISBN: 978-981-99-7713-0, 2024.

7. Editor of **Technological Advancement in E-waste Management: Towards Smart, Sustainable and Intelligent Systems**; Publisher: CRC Press, USA; Co-editors: Mr. Biswajit Debnath, Jadavpur University, Kolkata, India, Dr. Abhijit Das, RCC Institute of Information Technology, Kolkata, India and Potluri Anil Chowdary, Green Waves Environmental Solutions, India; ISBN: 9781032328560, 2024.
8. Editor of **Computer Intelligence Against Pandemics: Tools and Methods to Face New Strains of COVID-19**; Publisher: De Gruyter, Germany; Co-editors: Prof.(Dr.) Jyoti Sekhar Banerjee, Bengal Institute of Technology, Kolkata, India, Dr. Sergey Gorbachev, Chongqing University of Education, China, Dr. Khan Muhammad, Sungkyunkwan University, Seoul, South Korea, and Prof. (Dr.) Mario Koeppen, Kyushu Institute of Technology, Japan; ISBN: 9783110767667, 2023.
9. Editor of **Intelligent Human Centered Computing: Proceedings of HUMAN 2023**; Publisher: Springer; Co-editors: Prof. (Dr.) Jyoti Sekhar Banerjee, Bengal Institute of Technology, Kolkata, India, Prof. (Dr.) Debashis De, Maulana Abul Kalam Azad University of Technology, Kolkata, India, and Prof. (Dr.) Mufti Mahmud, Nottingham Trent University, United Kingdom; ISBN: 978-981-99-3477-5, 2023.
10. Editor of **Recent Trends in Intelligence Enabled Research: Selected Papers of Fourth Doctoral Symposium, DoSIER 2022**; Publisher: Springer; Co-editors: Prof. (Dr.) Goutam Das, Cooch Behar Government Engineering College, Cooch Behar, India and Dr. Sourav De, Cooch Behar Government Engineering College, Cooch Behar, India, and Dr. Leo Mrsic, Algebra University, Zagreb, Croatia ISBN: 978-981-99-1471-5, 2023.
11. Editor of **Intelligent Systems and Human Machine Collaboration: Select Proceedings of ICISHMC 2022**; Publisher: Springer; Co-editors: Prof. (Dr.) Mario Koeppen, Kyushu Institute of Technology, Japan, Prof. (Dr.) Debashis De, Maulana Abul Kalam Azad University of Technology, Kolkata, India, Prof. (Dr.) Vincenzo Piuri, University of Milan, Italy; ISBN: 978-981-19-8477-8, 2023.
12. Editor of **Confluence of Artificial Intelligence and Robotic Process Automation**; Publisher: Springer; Co-editors: Jyoti Sekhar Banerjee, Bengal Institute of Technology, Kolkata, India and Prof. (Dr.) Debashis De, Maulana Abul Kalam Azad University of Technology, Kolkata, India; ISBN: 978-981-19-8295-8, 2023.
13. Editor of **Development in E-waste Management: Sustainability and Circular Economy Aspects**; Publisher: CRC Press, UK; Co-editors: Dr. Abhijit Das, RCC Institute of Information Technology, Kolkata, India, Mr. Biswajit Debnath, Jadavpur University, Kolkata, India and Mr. Potluri Anil Chowdary, Green Waves Environmental Solutions, India; ISBN: 9781032295077, 2023.
14. Editor of **Hybrid Computational Intelligent Systems-Modeling, Simulation and Optimization**; Publisher: CRC Press, USA; ISBN: 9781032393025, 2023.
15. Editor of **Human-Centric Smart Computing: Proceedings of ICHCSC 2022**; Publisher: Springer; Co-editors: Prof. (Dr.) Jyoti Sekhar Banerjee, Bengal Institute of Technology, Kolkata, India and Prof. (Dr.) Mario Koeppen, Kyushu Institute of Technology, Japan; ISBN: 978-981-19-5403-0, 2023.
16. Editor of **Intelligent Cyber-Physical Systems Security for Industry 4.0: Applications, Challenges, and Management**; Publisher: CRC Press, USA; Co-editors: Jyoti Sekhar Banerjee, Bengal Institute of Technology, Kolkata, India, Dr. Ahmed J. Obaid, University of Kufa, Iraq and Prof. (Dr.) Wei-Chang Yeh, National Tsing Hua University, Taiwan; ISBN: 9781032148342, 2022.
17. Editor of **Combatting New Strains of COVID-19: A Computational Intelligence Perspective**; Publisher: De Gruyter, Germany; Co-editors: Dr. Jyoti Sekhar Banerjee, Bengal Institute of Technology, Kolkata, India, Dr. Sergey Gorbachev, Chongqing University of Education, Chongqing, China, Dr. Khan Muhammad, Sejong University, Seoul, South Korea

- and Dr. Mario Koeppen, Kyushu Institute of Technology, Fukuoka, Japan (to be published in 2022).
18. Editor of **International Conference on Innovative Computing and Communications - Proceedings of ICICC 2022, Volume 1**; Publisher: Springer AISC series; Co-editors: Dr. Deepak Gupta, Maharaja Agrasen Institute of Technology, India, Dr. Ashish Khanna, Maharaja Agrasen Institute of Technology, India, Prof. (Dr.) Aboul Ella Hassanien, Cairo University, Egypt, Dr. Sameer Anand, Shaheed Sukhdev College of Business Studies, India and Dr. Ajay Jaiswal, Shaheed Sukhdev College of Business Studies, India; ISBN: 978-981-19-2821-5, 2022.
  19. Editor of **International Conference on Innovative Computing and Communications - Proceedings of ICICC 2022, Volume 2**; Publisher: Springer AISC series; Co-editors: Dr. Deepak Gupta, Maharaja Agrasen Institute of Technology, India, Dr. Ashish Khanna, Maharaja Agrasen Institute of Technology, India, Prof. (Dr.) Aboul Ella Hassanien, Cairo University, Egypt, Dr. Sameer Anand, Shaheed Sukhdev College of Business Studies, India and Dr. Ajay Jaiswal, Shaheed Sukhdev College of Business Studies, India; ISBN: 978-981-19-2535-1, 2022.
  20. Editor of **Multi Agent Systems: Technologies and Applications towards Human-Centered**; Publisher: Springer: Springer Tracts in Human-Centered Computing, Singapore, Co-editors: Dr. Shibakali Gupta, University Institute of Technology, Burdwan, India, Dr. Indradip Banerjee, University Institute of Technology, Burdwan, India; ISBN: 978-981-19-0493-6, 2022.
  21. Editor of **Blockchain for IoT**; Publisher: CRC Press, USA; Co-editors: Dr. Debarka Mukhopadhyay, CHRIST (Deemed to be University), Bangalore, India, Prof. (Dr.) Sudipta Roy, Assam University, Silchar, India and Prof. (Dr.) Balachandran Krishnan, CHRIST (Deemed to be University), Bangalore, India; ISBN: 9781032036212, 2022.
  22. Editor of **Intelligence Enabled Research: DoSIER 2021**; Publisher: Springer Studies in Computational Intelligence, Singapore, Co-editors: Prof. (Dr.) Goutam Das, Cooch Behar Government Engineering College, Cooch Behar, India and Dr. Sourav De, Cooch Behar Government Engineering College, Cooch Behar, India; ISBN: 978-981-19-0489-9, 2022.
  23. Editor of **Blockchain Technology For Emerging Applications**; Publisher: Elsevier; Co-editors: Dr. SK. Hafizul Islam, Indian Institute of Information Technology Kalyani (IIIT Kalyani), India, Dr. Arup Kumar Pal, Indian Institute of Technology (Indian School of Mines) Dhanbad, India and Dr. Debabrata Samanta, CHRIST (Deemed to be University), Bengaluru, India; ISBN: 9780323901932, 2022.
  24. Editor of **Paradigm Shift in E-Waste Management: Vision for Future**; Publisher: CRC Press, UK; Co-editors: Dr. Abhijit Das, RCC Institute of Information Technology, Kolkata, India, Mr. Biswajit Debnath, Jadavpur University, Kolkata, India and Mr. Potluri Anil Chowdary, Green Waves Environmental Solutions, India; ISBN: 9780367559854, 2022.
  25. Editor of **Hybrid Quantum Metaheuristics: Theory and Applications**; Publisher: CRC Press, USA; Co-editors: Prof. (Dr.) Mario Koeppen, Kyushu Institute of Technology, Izuka, Japan, Prof. (Dr.) Elizabeth Behrman, Wichita State University, Kansas, USA and Dr. Ivan Kruz Aceves, Centre for Research in Mathematics (CIMAT), Guanajuato, México; ISBN: 9780367751562, 2022.
  26. Editor of **Blockchain based Internet of Things**; Publisher: Springer LNDECT series; Co-editors: Prof. (Dr.) Debashis De, Maulana Abul Kalam Azad University of Technology, Kolkata, India and Prof. (Dr.) Joel J. P. C. Rodrigues, Federal University of Piaui, Brazil; ISBN: 978-981-16-9259-8, 2022.
  27. Editor of **Applied Smart Health Care Informatics: A Computational Intelligence Perspective**; Publisher: John Wiley & Sons, UK; Co-editors: Dr. Sourav De, Cooch Behar Govt. Engineering College, Cooch Behar, India, Dr. Rik Das, Xavier Institute of Social

- Service, Ranchi, India and Prof. (Dr.) Ujjwal Maulik, Jadavpur University, India; ISBN: 978-1-119-74317-0, 2022.
28. Editor of **Advanced Data Mining Tools and Methods for Social Computing**; Publisher: Elsevier; Co-editors: Dr. Sourav De, Cooch Behar Govt. Engineering College, Cooch Behar, India, Dr. Sandip Dey, Sukanta Mahavidyala, Jalpaiguri, India and Dr. Surbhi Bhatia, King Faisal University, Saudi Arabia; ISBN: 9780323857086, 2022.
  29. Editor of **Intelligent Modelling, Prediction, and Diagnosis from Epidemiological Data: COVID-19 and Beyond**; Publisher: CRC Press, UK; ISBN: 9780367746063, 2021.
  30. Editor of **Cognitive Data Models for Sustainable Environment**; Publisher: Elsevier Academic Press, UK; Co-editors: Prof. (Dr.) Naba Kumar Mondal, Burdwan University, India, Dr. Kousik Mondal, IIT (ISM) Dhanbad, India, Dr. Jyoti Prakash Singh, NIT Patna, India and Prof. (Dr.) Kolla Bhanu Prakash, KL University, India; ISBN: 9780128240380, 2021.
  31. Editing **Neuro-Systemic Applications in Learning**; Publisher: Springer Nature Switzerland AG; Co-editors: Prof. (Dr.) Kennedy Andrew Thomas, Christ University, Centre for Education Beyond Curriculum, Bengaluru, India and Prof. (Dr.) Joseph Varghese Kureethara, Christ University, Department of Mathematics, Bangalore, India; ISBN: 978-3-030-72399-6, 2021.
  32. Author of **Statistical Modeling of Software Source Code**; Publisher: De Gruyter, Germany; Co-authors: Mr. A. Raghavendra, First American (India) Private Limited, Bangalore, India, Dr. Debabrata Samanta, CHRIST (Deemed to be University), Bangalore, India and Mr. Debanjan Konar, Sikkim Manipal Institute of Technology, Sikkim, India; ISBN: 9783110703399, 2021.
  33. Editor of **International Conference on Innovative Computing and Communications - Proceedings of ICICC 2021, Volume 1**; Publisher: Springer AISC series; Co-editors: Dr. Ashish Khanna, Maharaja Agrasen Institute of Technology, India, Dr. Deepak Gupta, Maharaja Agrasen Institute of Technology, India, Prof. (Dr.) Aboul Ella Hassanien, Cairo University, Egypt, Dr. Sameer Anand, Shaheed Sukhdev College of Business Studies, India and Dr. Ajay Jaiswal, Shaheed Sukhdev College of Business Studies, India; ISBN: 978-981-16-2593-0, 2021.
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  35. Editor of **International Conference on Innovative Computing and Communications - Proceedings of ICICC 2021, Volume 3**; Publisher: Springer AISC series; Co-editors: Dr. Ashish Khanna, Maharaja Agrasen Institute of Technology, India, Dr. Deepak Gupta, Maharaja Agrasen Institute of Technology, India, Prof. (Dr.) Aboul Ella Hassanien, Cairo University, Egypt, Dr. Sameer Anand, Shaheed Sukhdev College of Business Studies, India and Dr. Ajay Jaiswal, Shaheed Sukhdev College of Business Studies, India; ISBN: 978-981-16-3071-2, 2021.
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101. Editor of **Quantum Inspired Computational Intelligence: Research and Applications**; Publisher: Morgan Kaufmann, An Imprint of Elsevier, B. V., USA; Co-editors: Prof. (Dr.) Ujjwal Maulik, Jadavpur University, Kolkata and Prof. (Dr.) Paramartha Dutta, Visva-Bharati University, Santiniketan; ISBN: 978-0-12-804409-4.
102. Editor of **Intelligent Analysis of Multimedia Information**; Publisher: IGI Global, Hershey, USA; Co-editors: Mr. Hrishikesh Bhaumik, RCC Institute of Information Technology, Kolkata, Dr. Sourav De, University Institute of Technology, Burdwan and Dr. Goran Klepac, University College for Applied Computer Engineering, Croatia; ISBN: 9781522504986.
103. Editor of **Handbook of Research on Advanced Hybrid Intelligent Techniques and Applications**; Publisher: IGI Global, Hershey, USA; Co-editors: Mr. Pinaki Banerjee, Goldstone Infratech., Hyderabad, Dr. Dipankar Majumdar, RCC Institute of Information Technology, Kolkata and Prof. (Dr.) Paramartha Dutta, Visva-Bharati University, Santiniketan; ISBN: 9781466694743.
104. Authored a book on **Multimedia Programming: A Practical Approach**; Publisher: Vikas Publishers, New Delhi; Co-author: Prof. (Dr.) Paramartha Dutta, Visva-Bharati University, Santiniketan; ISBN: 9789325984479.
105. Editor of the **Proceedings of the 2015 IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN)**; Publisher: IEEE Computer Society, USA; Co-editors: Dr. Nibaran Das, Jadavpur University, Kolkata, Prof. (Dr.) Ujjwal Maulik, Jadavpur University, Kolkata, Prof. (Dr.) Debotosh Bhattacharjee, Jadavpur University, Kolkata, Dr. Indrajit Pan, RCC Institute of Information Technology, Kolkata, Mr. Hrishikesh Bhaumik, RCC Institute of Information Technology, Kolkata, Dr. Anirban Mukherjee, RCC Institute of Information Technology, Kolkata and Prof. (Dr.) Kazumi Nakamatsu, University of Hyogo, Japan; ISBN: 978-1-4673-6735-6.
106. Editor of **Hybrid Soft Computing: Research and Applications**; Publisher: Springer, India Pvt. Ltd.; Co-editors: Prof. (Dr.) Paramartha Dutta, Visva-Bharati University, Santiniketan and Prof. (Dr.) Susanta Chakraborty, Indian Institute of Engineering Science and Technology, Howrah; ISBN: 978-81-322-2543-0.
107. Editor of the **Handbook of Research on Swarm Intelligence in Engineering**; Publisher: IGI Global, Hershey, USA; Co-editor: Prof. (Dr.) Paramartha Dutta, Visva-Bharati University, Santiniketan, 2015; ISBN: 9781466682917.
108. Editor of the **Proceedings of the IEEE International Conference on Computational Intelligence and Communication Networks (ICCICN 2014)**; Publisher: RCC Institute of Information Technology, Kolkata; Co-editor: Dr. Indrajit Pan, RCC Institute of Information Technology, Kolkata.
109. Authored a book on **Soft Computing for Image and Multimedia Data Processing**; Publisher: Springer-Verlag GmbH, Tiergartenstr. 17, 69121 Heidelberg, Germany; Co-author: Prof. (Dr.) Ujjwal Maulik, Jadavpur University, Kolkata, ISBN: 978-3-642-40254-8.

110. Editor of **Handbook of Research on Computational Intelligence for Engineering, Science and Business**; Publisher: IGI Global, Hershey, USA; Co-editor: Prof. (Dr.) Paramartha Dutta, Visva-Bharati University, Santiniketan; ISBN: 9781466625181.
111. Editor of the **Proceedings of the IEEE National Conference on Computing and Communication Systems (CoCoSys-09)**; Publisher: University Institute of Technology, The University of Burdwan, Burdwan.
112. Authored a book on **Internetworking** for B. Tech. III Year I Semester under West Bengal University of Technology syllabus; Publisher: MATRIX™ EDUCARE, Kolkata in 2006; Co-authors: Prof. (Dr.) Paramartha Dutta, Visva-Bharati University, Santiniketan, India; Dr. Kousik Dasgupta, Kalyani Government Engineering College, India and Ms. Manju Biswas, Kalyani Government Engineering College, India.

#### BOOKS IN PROGRESS

1. Editing **Data Driven Environmental Intelligence**; Publisher: CRC Press, USA; Co-editors: Dr. Jan Platos, VSB Technical University of Ostrava, Czech Republic; Dr. Soumyadip Dhar, RCC Institute of Information Technology, Kolkata, India; Prof.(Dr.) Naba Kumar Mondal, Burdwan University, India; Prof. (Dr.) Ivan Zelinka, VSB Technical University of Ostrava, Czech Republic; Prof. (Dr.) Jyoti Sekhar Banerjee, Bengal Institute of Technology, India, and Prof. (Dr.) Abhijit Das, RCC Institute of Information Technology, Kolkata, India (To be published in 2025).
2. Editing **Multilevel Quantum Metaheuristics: Applications in Data Exploration**; Publisher: Elsevier Academic Press, USA; Co-editors: Dr. Hiranmoy Roy, RCC Institute of Information Technology, Kolkata, India, Dr. Jan Platos, VSB Technical University of Ostrava, Ostrava, Czech Republic, Dr. Leo Mrcic, Algebra University, Zagreb, Croatia, and Prof. (Dr.) Balamurugan Balusamy, Shiv Nadar University, Delhi NCR, India (to be published in 2025).
3. Editing **Resource-aware Intelligent Communication Systems**; Publisher: Springer; Co-editors: Prof, (Dr.) Mario Köppen, Kyushu Institute of Technology, Japan, Prof. (Dr.) Masato Uchida, Waseda University, Japan, Prof. (Dr.) Masato Tsuru, Kyushu Institute of Technology, Japan and Prof. (Dr.) Włodzimierz Ogryczak, Warsaw University of Technology, Poland (to be published in 2024).
4. Authoring **Quantum-Inspired Intelligent Image Analysis: Theory and Praxis**; Publisher: IET, USA; Co-author: Dr. Pankaj Pal, RCC Institute of Information Technology, Kolkata, India; Prof. Tulika Dutta, Presidency University, Bengaluru, India; Dr. Jan Platos, VSB Technical University of Ostrava, Ostrava, Czech Republic, and Vaclav Snasel, VSB Technical University of Ostrava, Ostrava, Czech Republic (to be published in 2024).

#### PHD SUPERVISION

#### VIDEO LECTURES

1. S. Bhattacharyya, “Quantum-Inspired Soft Computing in Environmental Science,” <http://www.igi-global.com/video.aspx?ref=quantum-inspired-soft-computing-environmental&titleid=142771>, EISBN13: 9781522502357, DOI: 10.4018/978-1-5225-0235-7
2. S. Bhattacharyya, “Quantum-Inspired Soft Computing for Binary Image Analysis,” <http://www.igi-global.com/video/quantum-inspired-soft-computing-binary/149818>, EISBN13: 9781522507680, DOI: 10.4018/978-1-5225-0768-0
3. S. Bhattacharyya, “Multilayer Neural Networks: Overview and Applications” <http://www.igi-global.com/video/multilayer-neural-networks/173679>, EISBN13: 9781522523178, DOI: 10.4018/978-1-5225-2317-8

#### CONSULTANCY ASSIGNMENTS

Offered consultancy to M/S Computer Technology Group, Kolkata on the development and testing of medical diagnosis software in 2004-2005.

#### FUNDED PROJECTS

No.	Name of Scholar	Title of Work	Co-Guide	Status
1.	Sourav De	Multilevel Image Segmentation using Soft Computing Techniques	Prof. S. Chakraborty, IEST, INDIA	Awarded
2.	Sandip Dey	Quantum Inspired Evolutionary Algorithms For Image Analysis	Prof. U. Maulik, JU, INDIA	Awarded
3.	Hrishikesh Bhaumik	Video Summarization and its Application to Content Based Video Retrieval	Prof. S. Chakraborty, IEST, INDIA	Awarded
4.	Debanjan Konar	Automatic Brain MR Image Segmentation using Quantum Inspired Self-Supervised Neural Network Architecture	Prof. B. K. Panigrahi, IIT Delhi, INDIA	Awarded
5.	Pankaj Pal	Quantum Inspired Soft Computing Based Object Extraction	Awarded at MAKAUT, WB, INDIA	
6.	Alokananda Dey	Automatic Clustering Using Quantum Inspired Metaheuristics	Dr. S. Dey, Sukanta Mahavidyala, INDIA	Awarded
7.	Koyel Chakraborty	Analysis of Sentiments using Deep Learning Techniques	Prof. R. Bag, SK-FGI, INDIA	To submit in MAKAUT, WB, INDIA
8.	Tulika Dutta	Multilevel Quantum Metaheuristics based Thresholding for Automatic Clustering of Hyperspectral Images	Prof. (Dr.) B. K. Panigrahi, IIT Delhi, INDIA	Enrolled
9.	Abhishek Gunjan	Intelligent Approaches for Adaptive Rule Extraction from Financial Transactions	Registered in CHRIST (Deemed to be University), INDIA	

No.	Title of Project	Funding Agency	Amount Sanctioned	Status
1.	Automatic Clustering of Satellite Imagery Using Quantum Inspired Meta-heuristics	AICTE, NEW Delhi, INDIA	INR 8,08,000	Completed

#### INVITED TALKS

1. An invited talk on “Quantum Computing Fundamentals” in the **IEEE Virtual Bureau Speaker Program** organized by KPR Institute of Engineering and Technology, Coimbatore, India on 10.11.2024.
2. A keynote on “Quantum Gate Neural Networks” in **First International Conference on Advanced Innovations in Engineering, Science, and Technology (AIEST-2024)** held in Abacus Institute of Engineering and Management (AIEM), Mogra, Hooghly, West Bengal, India on 29.10.2024.
3. An invited talk on “Quantum Computing and Its Applications” at Kalinga Institute of Industrial Technology, Bhubaneswar, India on 27.10.2024.
4. An invited talk on “An Introduction to Quantum Computing” at Institute of Engineering and Management, Kolkata, India on 24.10.2024.
5. An invited talk on “An Introduction to Quantum Computing” in the **Five-Day Online Faculty Development Program (FDP) on Exploring Emerging Frontiers in Generative AI and Quantum Computing** organized by University of Engineering and Management, Kolkata In association with HRDC, IEM-UEM Group on 27.09.2024.

6. A keynote on “Quantum Gate Neural Networks” in **Third International Conference on Applied Data Science(ICADS) 2024** held in Santa Clara Valley, USA on 13.09.2024.
7. An invited talk on “Quantum Gate Neural Networks” in the **5 Days Faculty Development Programme on Quantum Artificial Intelligence** organized by the Department of CSE(AIML), CSBS, Institute of Engineering and Management, Kolkata, India and technically sponsored by IEEE Computational Intelligence Society, Kolkata Chapter and Asia-Pacific Artificial Intelligence Association (AAIA), Kolkata Branch on 27.06.2024.
8. An invited talk on “Machine Learning for Portfolio Management” in the **5 Days FDP on Data Analytics - Challenges and Opportunities** organized by the Department of Computer Science and Engineering, Techno Main Salt Lake, Kolkata, India on 17.05.2024.
9. An invited talk on “Overview of Quantum Computing Hardware” in the **5 Days STTP on Quantum Computing** organized by the Department of Computer Science and Engineering, Sri Venkateswara College Of Engineering, Sriperumbudur, India on 08.02.2024.
10. An invited talk on “Understanding Quantum Backpropagation” in **International Workshop cum Five Days FDP on INDUSTRY 4.0 & DIGITALIZATION** organized by Greater Kolkata College of Engineering and Management in technical association with IETE and CSI, Kolkata Chapter on 16.01.2024.
11. A keynote on “Automatic Clustering with Multilevel Quantum Systems” in **8th International Conference on Emerging Applications of Information Technology (EAIT 2024)** held in Kolkata, India on 11.01.2024.
12. A keynote on “Automatic Clustering using Multilevel Quantum Systems” in **The 30th International Conference on Neural Information Processing (ICONIP2023)** held in Changsha, China on 22.11.2023.
13. An invited talk on “Overview of Quantum Computing Hardware” in the **Two Week Faculty Development Program on Recent Trends in Quantum Computing** organized by B.S. Abdur Rahman Crescent Institute of Science and Technology Chennai, India on 17.10.2023.
14. A keynote address on “Understanding Quantum Backpropagation” in the **IEEE Computer Society EXA DVP Event** organized IEEE Computer Society (Regions 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10) on 03.06.2023.
15. An invited talk on “An Introduction to Quantum Computing” in the **Five-Day Online Faculty Development Program (FDP) on Research Scopes in Data Science & It’s Applications** organized by School of Computer Science and Engineering (SCOPE), VIT-AP University, Andhra Pradesh, India on 30.05.2023.
16. A keynote on “Automatic Image Clustering with Quantum Computing” in **NIELIT’s International Conference on Communication, Electronics and Digital Technologies (NICE - DT 2023)** organized by NIELIT, India on 10.02.2023.
17. An invited talk on “Automatic Image Clustering with Multilevel Quantum Systems” in **IEEE Computer Society Webinar** under IEEE Computer Society Distinguished Visitor Program on 08.02.2023.
18. An invited talk on “Quantum Computing: A Gentle Introduction” in the **Two Day Faculty Development Program on Quantum Computing** organized by Presidency University, Bangalore, India on 30.01.2023.
19. A keynote address on “Quantum Computing: A Gentle Introduction” in the **IEEE Computer Society Distinguished Visitor Program** organized by University of Dubai, United Arab Emirates on 17.01.2023.
20. A keynote address on “Quantum Computing: A Gentle Introduction” in the **IEEE Computer Society Distinguished Visitor Program** organized by United Arab Emirates Affinity Group, YP and United Arab Emirates Section Chapter, C16 on 16.01.2023.

21. An invited talk on “Introduction to Quantum Computing” in the **One Week Faculty Development Program on Quantum Computing** organized by the Department of Computer Engineering, K. J. Somaiya Institute of Engineering and Information Technology, Mumbai, India on 12.12.2022.
22. An invited talk on “Quantum Inspired Soft Computing” in the **China facing webinar for Systems and Soft Computing/SASC** organized by Elsevier on 27.07.2022.
23. An invited talk on “Introduction to Quantum Computing” in the **Virtual Master Class** organized by the Taylor & Francis Group and Dr. A. P. J. Abdul Kalam Technical University (AKTU) Lucknow, India on 18.05.2022.
24. A keynote address on “Machine Learning for Portfolio Management” in **3rd International Conference on Data Science and Applications (ICDSA 2022)** organized by Jadavpur University, Kolkata, India and technically sponsored by Soft Computing Research Society on 27.03.2022.
25. An invited talk on “An Introduction to Quantum Computing” in the **IEEE Virtual Bureau Speaker Program** organized by the IEEE HKN Lambda Lambda Chapter in collaboration with the IEEE Solid State Circuit Society (SSCS) at the American University of Sharjah, UAE on 14.03.2022.
26. A keynote address on “Quantum Machine Learning: Understanding Quantum Backpropagation” in **International Conference on Mobile and Embedded Technology - MECON-2022** organized by Amity University Uttar Pradesh, Noida (UP), India on 10.03.2022.
27. An invited talk on “Quantum Machine Learning: Understanding Quantum Backpropagation” in the ACM and CSI-Kolkata Chapter technically sponsored five-day online FDP on **Applications of Machine Learning** and organized by the Department of Computer Science Engineering, Dr. B. C. Roy Engineering College, Durgapur, and MAKAUT Nodal Centre Zone 2 on 24.02.2022.
28. An invited talk on “Quantum Machine Learning: Understanding Quantum Backpropagation” in AICTE Training & Learning Academy (ATAL) sponsored Faculty Development Program on **Quantum Computing** organized by the Department of Information Technology, Tripura University, India on 11.02.2022.
29. An invited talk on “An Introduction to Quantum Computing” in the **IEEE Virtual Bureau Speaker Program** titled **Talk Session on Quantum Computing** organized by IEEE Computer Society Student Branch GEC-Barton Hill, India on 10.01.2022.
30. An invited talk on “Machine Learning for Portfolio Management” in AICTE Training & Learning Academy (ATAL) sponsored Faculty Development Program on **Emerging Trends in Business Data Analytics for Managers** organized by Xavier Institute of Social Service, Ranchi, India on 24.11.2021.
31. An invited talk on “Quantum Machine Learning: Application to Image Enhancement” in AICTE Training & Learning Academy (ATAL) sponsored Faculty Development Program on **Introduction to Quantum Computing** organized by the Department of Information Technology, Tripura University, India on 11.11.2021.
32. An invited talk on “Quantum Metaheuristics: Application to Automatic Clustering” in AICTE Training & Learning Academy (ATAL) sponsored Faculty Development Program on **Introduction to Quantum Computing** organized by the Department of Information Technology, Tripura University, India on 10.11.2021.
33. A keynote address on “Introduction to Quantum Computing” in **Ordinateur’21** organized by Computer Society of IEEE GCET Student Branch, G. H. Patel College of Engineering & Technology, CVM University on 12.08.2021.

34. A keynote address on “Understanding Quantum Backpropagation” in the **2021 International Conference on Artificial Intelligence, Big Data, Computing and Data Communication Systems (icABCD)** held as an e-conference at Durban, KwaZulu-Natal, South Africa on 05.08.2021.
35. A keynote address on “Quantum-Inspired Soft Computing: Application to Prediction of Environmental Hazards” in the AICTE sponsored 6-Day Short Term Training Programme (STTP) on **Quantum Computing and Applications** organized by Maulana Abul Kalam Azad University of Technology, West Bengal on 23.07.2021.
36. An invited talk on “An Introduction to Quantum Computing” in the IEEE Virtual Bureau Speaker Program organized by Madhuben and Bhanubhai Patel Institute of Technology (MBIT) and IEEE MBIT Computer Society Student Branch on 17.07.2021.
37. An invited talk on “Quantum-Inspired Soft Computing for Binary Image Enhancement” in the AICTE STTP Programme titled **Tools and Techniques for Machine Learning and its Applications** organized by Maulana Abul Kalam Azad University of Technology, West Bengal on 10.07.2021.
38. An invited talk on “Quantum Machine Learning for Image Restoration” in the One Day Webinar organized by the Department of Computer Application, Techno International New Town under the IEEE YP, Kolkata Section on 2nd July 2021.
39. A keynote on “Quantum-Inspired Soft Computing: Application to Prediction of Environmental Hazards” in the AICTE sponsored STTP on “Data Science and Machine Learning” organized by Narula Institute of Technology, Kolkata, India on 09th June, 2021.
40. A keynote on “Ethics of Publishing” in the AICTE STTP Hands on training on ”Art of writing Technical papers” organized by Maulana Abul Kalam Azad University of Technology (MAKAUT), Kolkata, India on 05th June, 2021.
41. An invited talk on “Understanding Quantum Backpropagation,” in the **Online Faculty Development Programme on “Quantum Artificial Intelligence** organized by Indian Institute of Information Technology Pune (IIITP), India and sponsored by AICTE Training and Learning (ATAL) Academy on 25th May, 2021.
42. An invited talk on “Deep Learning Based Sentiment Analysis on COVID-19 Tweets: Popularity Affecting Accuracy,” in the **IEEE SPS Regional Meeting on Deep learning and Biomedical Signals 2021** organized by IEEE Vardhaman SPS SB Chapter, India on 14th May, 2021.
43. An invited talk on “Introduction to Quantum Computing,” in the **Technical Colloquium on Quantum Computation and its Challenges in Engineering & Medical Sciences (QCEMS2021)** organized by Amity University, Jharkhand, India on 26th April, 2021.
44. An invited talk on “Quantum Machine Learning: Application to Image Restoration,” in the **Online FDP Quantum Machine Learning** organized by Mandsaur University, India on 24th April, 2021.
45. An invited talk on “Image Restoration Using Quantum Backpropagation Neural Network,” in the **Five Days Online FDP on Artificial Intelligence** organized by Sikkim Manipal Institute of Technology, Sikkim, India on 26th February, 2021.
46. An invited talk on “Understanding Quantum Backpropagation” in the **Five Days Online National Level Workshop on Quantum Computing** organized by Department of Computer Engineering, K. K. Wagh Institute of Engineering Education and Research, Nashik, India on 4th Feb 2021.
47. An invited talk on “Quantum Metaheuristics” in the **Five Days Online National Level Workshop on Quantum Computing** organized by Department of Computer Engineering, K. K. Wagh Institute of Engineering Education and Research, Nashik, India on 4th Feb 2021.

48. A keynote address on “Recent Trends in Computational Intelligence Enabled Research in Post COVID-19 World” in the **Ist National Hackathon on Self Reliance based Intelligent India Hackathon (SRIIH 2021)** organized by Computer Society of India, Kolkata Chapter in association with JIS Group Educational Initiatives on 29th January, 2021.
49. A keynote address on “Introduction to Quantum Computing” in the **International Conference on Research and Applications in Artificial Intelligence (RAAI 2020)** organized by RCC Institute of Information Technology, Kolkata on 19th December, 2020.
50. A keynote address on “Understanding Quantum Backpropagation” in the **2020 International Conference on Computers, Information Processing and Advanced Education (CIPAE 2020)** organized by Institute of Electronics and Computer (IEC) on 17th October, 2020.
51. An invited talk on “Introduction to Quantum Computing” in the **National Webinar** organized by Cooch Behar Government Engineering College, Cooch Behar, India on 14th October, 2020.
52. An invited talk on International Live Webinar session on “Patent Office Procedures” in the **Intellectual Property Rights Protection, Ownership, and Innovation** organized by the Department of Management and Commerce, Dayananda Sagar College of Arts, Science and Commerce, Bangalore, India on 7th September 2020.
53. A keynote address on “Quantum Inspired Automatic Clustering” in the **2nd International Conference on Emerging Technologies in Data Mining and Information Security (IEMIS 2020)** held during 02-04 July, 2020 at Kolkata, India.
54. An invited talk on “Uncertainty Management Using Fuzzy Logic” in an **One Day National Webinar on Soft Computing: Issues & Applications** organized by the Department of Computer Science in collaboration with IQAC, Derozio Memorial College, Kolkata on 30th June, 2020.
55. An invited talk on “Image Restoration Using Quantum Backpropagation Neural Network” in an **One Day International Webinar on Quantum, Data and Algorithms** organized by Computer Society of India, Student Branch, Assam University, Silchar in association with the Department of Computer Science and Engineering, Assam University, Silchar on 28th June, 2020.
56. An invited talk on “Quantum-Inspired Soft Computing: Application to Prediction of Environmental Hazards” in an webinar organized by JIS College of Engineering, Kalyani, India on 20th May, 2020.
57. An invited talk on “Quantum-Inspired Soft Computing: Application to Prediction of Environmental Hazards” in an webinar jointly organized by IEEE Hyderabad Section, IEEE CIS Hyderabad Chapter and IEEE GRSS Hyderabad Chapter on 27th March, 2020.
58. An invited talk on “Patent Office Procedures” in K L University, Guntur, India on 6th March, 2020.
59. A keynote address on “Quantum Inspired Automatic Clustering” in the **3rd International Conference on Engineering Mathematics and Computing (ICEMC 2020)** organized by Haldia Institute of Technology, Haldia on 5th February, 2020.
60. An invited talk on “Quantum Inspired Automatic Image Clustering” in AICTE Training And Learning (ATAL) Academy sponsored **5-Days National Workshop on Recent Trends in Quantum Computing** organized by Department of Information Technology, Tripura University, India on 27th September, 2019.
61. An invited talk on “Patent Office Procedures” in **One Day Seminar on Entrepreneurship Development: Opportunities and Risks** organized by Institutional Innovation Council, RCC Institute of Information Technology, Kolkata, India on 6th September, 2019.

62. An invited lecture on “Quantum Inspired Automatic Image Clustering” in **Workshop on Science without Borders** organized by the Faculty of Electrical Engineering and Computer Science, VSB Technical University of Ostrava, Czech Republic on 19th February, 2019.
63. An invited lecture on “Image Thresholding using Multilevel Quantum Systems” at the Otto von Guericke University of Magdeburg, Germany on 7th February, 2019.
64. ACM Distinguished Speaker Program Lecture on “Quantum Inspired Automatic Image Clustering” in **2018 Second International Symposium on Signal and Image Processing (ISSIP 2018)** organized by the Departments of Information Technology and Computer Application, RCC Institute of Information Technology, Kolkata, India in association with NIELIT, Kolkata, India and Maulana Abul Kalam Azad University of Technology, Kolkata, India on 21st November, 2018.
65. An invited talk on “Fuzzy Logic Control” in the **Five days’ Student Workshop on Emerging Trends on Instrumentation & Control Engineering” (ETICE - 2018)** organized by the Department of Applied Electronics and Instrumentation Engineering, RCC Institute of Information Technology, Kolkata on 26th June, 2018.
66. An invited talk on “Event Management: Organizing and Attending International/National Conferences/Workshops/Seminars” in the **One Week Faculty Development Programme on Higher Education Faculty Career Orientation and Advancement (CEGR Certified Faculty Programme)** organized by CEGR, New Delhi and Narula Institute of Technology, Kolkata on 22th June, 2018.
67. An invited talk on “Leveraging ICT for pedagogy: individual and institutional opportunity spaces” in the **One day seminar on ICT in Higher Education** organized by IQAC Cell, Sovarani Memorial College, Jagatballavpur, Howrah on 6th April, 2018.
68. A keynote address on “Quantum Inspired Metaheuristics: Fundamentals and Applications” in the **2nd International Conference on Recent Developments in Control Automation and Power Engineering (RDCAPE 2017)** organized by the Department of Electrical and Electronics Engineering, Amity University, Noida on 26th October, 2017.
69. An invited talk on “Hybrid Intelligent Systems” in the **Two week Faculty Development Program on Hybrid Computational Intelligence** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata in collaboration with National Institute of Technology Patna on 18th July, 2017.
70. An invited talk on “Quantum Inspired Metaheuristics: Applications to Multilevel Image Thresholding” in the **Two week Faculty Development Program on Hybrid Computational Intelligence** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata in collaboration with National Institute of Technology Patna on 19th July, 2017.
71. An invited talk on “Quantum Self-Organizing Neural Networks: Application to Binary Image Denoising” in the **TEQIP-II sponsored One day Symposium on Machine Learning And its Applications** technically sponsored by IEEE CIS, Kolkata Chapter and organized by the Department of Computer Science and Engineering, National Institute of Technology Durgapur on 22nd March, 2017.
72. An invited talk on “Introduction to L<sup>A</sup>T<sub>E</sub>X” in the **TEQIP-II funded National Level Faculty Development Program on L<sup>A</sup>T<sub>E</sub>X: The Art of Technical Writing** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata on 6th February, 2017.
73. An invited talk on “Binary Image Preprocessing Using Quantum Inspired Multilayer Self Organizing Neural network Architecture” at University of Dhaka, Dhaka, Bangladesh on 27th January, 2017.
74. An invited talk on “Quantum-Inspired Computation” at Fukuoka Institute of Technology, Fukuoka, Japan on 19th October, 2016.

75. An invited talk on “Quantum Inspired Metaheuristics Application to Multilevel Image Thresholding” at Kyushu Institute of Technology, Izuka, Japan on 18th October, 2016.
76. An invited talk on “Image Enhancement Using Quantum Inspired Soft Computing” at Kyushu Institute of Technology, Izuka, Japan on 17th October, 2016.
77. An invited talk on “Fuzzy Logic And Its Applications To Real Life Problems” in the **TEQIP-II funded one day Student Workshop on Orientation Towards Computer Science Research** jointly organized by RCC Institute of Information Technology ACM student chapter and Department of Computer Science and Engineering, RCC Institute of Information Technology, Kolkata on 22nd September, 2016.
78. An invited lecture on “ $\text{\LaTeX}$ : The Art of Technical Writing” in the **TEQIP-II funded One week FDP on Pedagogy & Research Methodology** organized by the Department of Applied Science and Computer Application, RCC Institute of Information Technology, Kolkata, India on 5th August 2016.
79. An invited lecture on “Fundamentals of Fuzzy Logic” in the **TEQIP-II funded workshop** organized by the Department of Computer Science and Engineering, Madanapalle Institute of Technology and Science, Madanapalle, India on 23rd July 2016.
80. An invited lecture on “A Brief Overview of Fiber Optics” in the **TEQIP-II funded and IEI (I) Technically sponsored One Week FDP on High Frequency Application of Nanoelectronic and Photonic Devices** organized by the Department of Electronics and Communication Engineering, RCC Institute of Information Technology, Kolkata, India on 14th July 2016.
81. A plenary talk on “Image Enhancement Using Quantum Multilayer Self Organizing Neural Network Architecture” in the **2016 International Conference on Wireless Communications, Network Security and Signal Processing (WCNSSP2016)** held during June 26-27, 2016 at Chiang Mai, Thailand.
82. A keynote address on “Binary and Pure Color Image Enhancement Using Quantum Multilayer Self Organizing Neural Network Architecture” in the **National Seminar on Global Development and Sustainable Computing (GDSC 16)** organized by MATS School of Information Technology, MATS University, Raipur, C. G., India on 7th February, 2016.
83. An invited lecture on “Quantum Inspired Soft Computing for Binary and Pure Color Image Enhancement” in the **TEQIP-II funded National Level Orientation & FDP on Hybrid Intelligence** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India on 22nd January 2016.
84. A keynote address on “Quantum Inspired Soft Computing in Environmental Science” in the **2015 IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2015)** held during 20-22 November, 2015 at Kolkata, India.
85. A plenary talk on “Binary image denoising by means of a quantum inspired multilayer self organizing neural network” in the **International Conference on Computer Science and Information Engineering (ICCSIE 2015)** held during October 23 to October 25, 2015 at Ningbo, China.
86. An invited lecture on “Elements of Fuzzy Logic” in the **One Day UGC sponsored State Level Seminar on MATLAB and Its Application in Soft Computing** organized by the Department of Computer Science, Serampore Girls’ College, Serampore, India in collaboration with the Department of Computer Application, RCC Institute of Information Technology, Kolkata, India on 08th August 2015.
87. An invited lecture on “Fuzzy Sets and Fuzzy Logic” in the **Three Day Student Workshop on Soft Computing Tool Boxes in MATLAB** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India on 23rd April 2015.

88. An invited lecture on “A QBNN Approach for Modeling of Phenol Adsorption from Aqueous Solution by Orange Peel Ash” in the **TEQIP-II funded and IEEE CIS, Kolkata Chapter technically sponsored National Level FDP on Computational Intelligence** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India on 13th March 2014.
89. An invited lecture on “Quantum Inspired Soft Computing Based Image Processing” in the **TEQIP-II funded National Level FDP on Recent Trends in Research and Research Methodology** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India on 07th January 2014.
90. An invited lecture on “Fuzzy Image Processing” in the **TEQIP-II funded National Level FDP on Image and Video Processing** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India on 10th December 2013.
91. An invited lecture on “Quantum Backpropagation Neural Network And Its Scientific Application” in the **One Week Continuing Education Program on Soft Computing and Its Application in Computation** organized by the Department of Computer Science and Engineering, Narula Institute of Technology, Kolkata, India on 14th November 2013.
92. An invited lecture on “Quantum Inspired Soft Computing” in the **TEQIP-II funded National Level Workshop on Mathematical Models for Scientific and Technological Applications** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India on 17th June 2013.
93. An invited lecture on “Fuzzy Sets and Fuzzy Logic: Fundamentals and Applications” in the **TEQIP-II funded and IEEE CIS technically sponsored National Level Staff Development Programme on Soft Computing and Its Applications** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India on 18th March 2013.
94. An invited lecture on “Fuzzy Sets and Applications” in the **One-day workshop on Soft Computing: Theory and Its Applications** organized by the Departments of Computer Science, Information Technology and Computer Applications, Academy of Technology, Aedconagar, Hooghly, India on 8th January 2011.
95. An invited lecture on “Fuzzy Rule Base” in the **AICTE sponsored SDP on Pattern Recognition: Principles and Applications** organized by the Department of Computer Science and Engineering Kalyani Government Engineering College, Kalyani on June 10, 2010.
96. An invited lecture on “Rough Sets: Concepts, Applications and Tools” in the **AICTE sponsored SDP on Data Mining and Data Warehousing** organized by RCC Institute of Information Technology, Kolkata – 700 015 on July 14, 2009.
97. An invited talk on “Visual Basic API” at MCKV Institute of Engineering, Liluah, Howrah - 711 204 on October 13, 2007.
98. An invited hands on session on “Fuzzy Toolbox” in the **Workshop on In-House Quality Enhancement Program** organized by the Department of Computer Science and Engineering at RCC Institute of Information Technology, Kolkata – 700 015 on July 18, 2007.
99. An invited lecture on “Operating Systems: DOS and Windows” in a **One day Retraining Program on Operating System** organized by the Department of Computer Science and Engineering, Jadavpur University on December 07, 2006.
100. An invited lecture on “Object Extraction in a Soft Computing Environment” in a one day seminar on **Evolutionary and other Soft Computing Techniques in Engineering Applications** organized by the Department of Computer Science and Engineering, Kalyani Government Engineering College and TEQIP, GOI on February 28, 2006.

1. Attended and presented a paper at **International Conference on Innovative Computing and Communication (ICICC-2019)** held during March 21-22, 2019 at VSB-Technical University of Ostrava, Czech Republic..
2. Attended the Annual Academic Conference **TechNext India 2017** organized by CSI Mumbai Chapter Spoken Tutorials and FOSEEE, IIT Bombay and held during January 14-15, 2017 at Mumbai, India.
3. Attended the **International Conference on Computational Science and Engineering (ICCSE 2016)** held during October 04-06, 2016 at Kolkata, India.
4. Attended the **2016 International Conference on Wireless Communications, Network Security and Signal Processing (WCNSSP2016)** held during June 26-27, 2016 at Chiang Mai, Thailand.
5. Attended the **International Conference on Computer Science and Information Engineering (ICCSIE 2015)** held during October 23 to October 25, 2015 at Ningbo, China.
6. Attended the **Fourth IEEE International Conference on Communication Systems and Network Technologies 2014 (CSNT 2014)** on April 07, 2014 at Bhopal, India.
7. Attended the **International Conference on Recent Trends in Information Systems (ReTIS 2011)** held at Jadavpur University, Kolkata India during December 21-23, 2011.
8. Attended the **National Conference on Emerging Trends in Educational Informatics (ETEI 2010)** held at NITTTR, Kolkata, India during December 23 to December 24, 2010.
9. Attended and presented a paper at the **International Conference on Communication, Computers and Devices (ICCCD 2010)** held at Indian Institute of Technology, Kharagpur, India during December 10 to December 12, 2010.
10. Attended and presented papers at the **National Conference on Ubiquitous Computing (NCUBQT 2009)** held at Guru Nanak Institute of Technology, Kolkata, India during September 22 to September 23, 2009.
11. Attended the **IEEE National Conference on Computing and Communication Systems (CoCoSys-09)** held at University Institute of Technology, The University of Burdwan, Burdwan, India during January 02 to January 04, 2009.
12. Attended and presented a paper at the **National Conference on Nanotechnology And Its Application in Quantum Computing (NAQC 2008)** held at Government College of Engineering and Leather Technology during September 22 to September 24, 2008.
13. Attended the **National Conference on Recent Trends in Information Systems (ReTIS 08)** held at Jadavpur University, Kolkata, India during February 07 to February 09, 2008.
14. Attended and presented a paper at the **SPIT-IEEE Colloquium and International Conference 2008** held at Sardar Patel Institute of Technology, Mumbai, India during February 04-05, 2008.
15. Attended and presented a paper at the **National Conference on Recent Trends in Intelligent Computing (RTIC 2006)** held at Kalyani Government Engineering College, Kalyani, India in 2006.
16. Attended the **National Conference on Recent Trends in Information Systems (ReTIS 06)** held at Jadavpur University, Kolkata, India during July 14 to July 15, 2006.
17. Attended and presented a paper at the **International Conference on Optics and Optoelectronics (ICOL 2005)** held at Instruments Research and Development Establishment, Dehra Dun in 2005.
18. Attended and presented a paper at the **International Workshop on Spatial Issues in Language and Vision (SILV 2005)** held at Indian Institute of Technology, Kanpur, India in 2005.

19. Attended and presented a paper at the **Fifth International Conference on Advances in Pattern Recognition (ICAPR 2003)** held at Kolkata, India in 2003.
20. Attended and presented a paper at the **Third National Conference on Computer Vision, Graphics and Image Processing (ICVGIP 2002)** held at Ahmedabad, India in December 2002.
21. Attended and presented a paper at the **International Conference on Photonics and Fiber Optics (PHOTONICS 2000)** held at Kolkata, India in 2000.

PARTICIPATION IN  
WORK-  
SHOPS/SEMINARS

1. Participated in the **Summer School on Machine Learning and Big Data with Quantum Computing** organized by University of Porto, Portugal during 07.09.2020 to 08.09.2020.
2. Participated in a 6 days Online Faculty Development Program on **Quantum Computing** organized by E & ICT Academy, NIT Patna during 24.08.2020 to 29.08.2020.
3. Participated in a 2 Weeks Instructor Led Live Online Faculty Development Program On **Artificial Intelligence & Machine Learning Using Python** organized by Finland Labs (A Unit of Revert Technology Pvt. Ltd.) In association with National Social Summit, IIT Roorkee held during 13.07.2020 to 24.07.2020.
4. Participated in a 5 Days Instructor Led Live Online Faculty Development Program on **Internet of Things (IOT) Using Amazon AWS** organized by Finland Labs (A Unit of Revert Technology Pvt. Ltd.) In association with National Social Summit, IIT Roorkee held during 15.06.2020 to 19.06.2020.
5. Participated in a hands on Workshop on **Arduino Programming and Internet of Things** organized by leadingIndia.ai, a nation wide initiative by Bennett University, Greater Noida, India during 20.05.2020 to 24.05.2020.
6. Participated in a 5 Day Instructor Led Live Online Faculty Development Program On **Blockchain Technology** organized by Finland Labs (A Unit of Revert Technology Pvt. Ltd.) in association with National Social Summit, IIT Roorkee during 18.05.2020 to 22.05.2020.
7. Completed a 30-hour online course on **PYTHON for Image Processing and Computer Vision** conducted by SCS-India, during the period 1st Oct 2017 - 30th Oct 2017.
8. Completed a 30-hour online course on **Data Analytics and Machine Learning using PYTHON** conducted by SCS-India, during the period 17th Dec 2016 - 10th Jan 2017.
9. Participated and presented a paper titled "A quantum inspired backpropagation multilayer perceptron (QIBMLP) for prediction of iron adsorption capacity of calcareous soil from aqueous solution" in a One week TEQIP-II funded National Level Faculty Development Programme on **Fundamentals and Advances of Solid State Matters for Technological Applications** organized by Dept. of ECE and Dept. of Sc. & Hum., RCCIIT, Kolkata during 06.07.2015 to 10.06.2015.
10. Participated in a One week TEQIP-II funded National Level Faculty Development Programme academically and technically supported by Center of Education Technology, IIT, Kharagpur on **Pedagogy and E-Learning Technology** organized by Dept. of CSE, RCCIIT, Kolkata during 22.06.2015 to 26.06.2015.
11. Participated in a One week TEQIP-II funded and ACM, Kolkata Chapter technically sponsored National Level Faculty Development Programme on **Recent Advancements in Wireless and Mobile Network Technologies** organized by Dept. of IT, RCCIIT, Kolkata during 21.07.2014 to 25.07.2014.
12. Participated in a One week TEQIP-II funded National Level Faculty Development Programme on **Advancement In Instrumentation Engineering and Development in Process Automation** organized by Dept. of AEIE, RCCIIT, Kolkata during 14.07.2014 to 18.07.2014.

13. Participated in a One week TEQIP-II funded and IEEE EDS Chapter, Kolkata Section technically sponsored National Level Faculty Development Programme on **Advances in Solid State Devices** organized by Dept. of ECE, RCCIIT, Kolkata during 10.02.2014 to 14.02.2014.
14. Participated in a Three day TEQIP-II funded National Level Workshop on **Recent Trends in Multimedia Technology** organized by Dept. of CSE, RCCIIT, Kolkata during 10.07.2013 to 12.07.2013.
15. Participated in a One day IEEE GRSS technically sponsored and TEQIP-II funded National Level Seminar on **Radio and Radar Sensing of Atmosphere** organized by Dept. of ECE, RCCIIT, Kolkata on 27.02.2013.
16. Participated in a One day workshop on **Computational Intelligence in Brain-Computer Interface and Context-Aware Service Management** organized by Calcutta Chapter of IEEE CIS and Indian Statistical Institute, Kolkata on 14.03.2011.
17. Participated in the Half-day seminar on **Introduction to Nanotechnology and Some Applications to Nanoparticles** organized by the Department of Computer Application, RCC Institute of Information Technology, Kolkata on 05.01.2009.
18. Participated in a One day workshop on **Building Energy Simulation Awareness** organized by the School of Illumination Science, Engineering and Design and Global Change Programme, Jadavpur University on 14.06.2008.
19. Participated in a One day state level seminar on **Application of Cryptology in Industry and Cryptanalysis** organized by the Department of Information Technology, RCC Institute of Information Technology on 05.04.2007.
20. Participated in a TEQIP sponsored One day workshop on **Cryptography-Yesterday, Today and Tomorrow** organized by the Department of Computer Science & Engineering, Kalyani Government Engineering College, Kalyani on 07.06.2006.
21. Participated in a TEQIP sponsored One day seminar on **Internet Security** organized by the Department of Computer Science & Engineering, Kalyani Government Engineering College, Kalyani on 28.04.2006.
22. Participated in a Three day national workshop on **Characterisation of Laser and Nanomaterials** organized by the Department of Physics, The University of Burdwan from 25.12.2005 to 27.12.2005.
23. Participated in a Two-day workshop on **Microelectronics and VLSI Design Techniques** organized by the Department of Electronics and Communication Engineering, Kalyani Government Engineering College, Kalyani from 17.09.2005 to 18.09.2005.
24. Participated in a short-term training on **Multimedia Based Instructional Software Development** organized by the National Institute of Technical Teachers' Training and Research, Kolkata from 08.08.2005 to 12.08.2005.
25. Participated in an AICTE sponsored quality improvement programme short-term course on **Application of Virtual Reality in Mineral Industry** organized by the Department of Mining Engineering, Indian Institute of Technology, Kharagpur from 31.01.2005 to 04.02.2005.
26. Participated in a training on **NET Technology core concepts and its various features** organized by Ardent Collaborations, Kolkata from 08.10.2004 to 10.10.2004.
27. Participated in a One day IEEE Workshop on **Wireless Networking and Mobile Computing** held at the Indian Association for Cultivation of Science on 13.03.2004.
28. Participated in a quality improvement programme short-term course on **Signal Processing and its Applications** organized by the Department of Electronics and Communication Engineering, Indian Institute of Technology, Guwahati from 19.01.2004 to 27.01.2004.
29. Participated in a short course on **Computer Network and Internetworking** organized by the Technical Teachers' Training Institute, Eastern Region from 06.01.2004 to 10.01.2004.

30. Participated in an AICTE-ISTE sponsored short-term course on **Biomedical Imaging** organized by the Department of Computer Science and Engineering, NERIST, Nirjuli, Arunachal Pradesh from 10.11.2003 to 21.11.2003.
31. Participated in a Two-day workshop on **Computational Geometry** organized by Advanced Computing and Microelectronics Unit, Indian Statistical Institute from 18.03.2002 to 19.03.2002.
32. Participated in an in-house programme on **Educational Technology** organized by the Technical Teachers' Training Institute, Eastern Region from 13.03.2002 to 15.03.2002.

CONFERENCES &  
SHORT-TERM  
COURSES ORGANIZED

1. General Chair of the **2025 International Conference on Social Networking, Intrusion Prevention and Detection Systems (SNIPDS 2025)** held during 4-7 March, 2025 in Ostrava, Czech Republic.
2. General Chair of the **2024 Sixth Doctoral Symposium on Intelligence Enabled Research (DoSIER 2024)** held during 28-29 November, 2024 at Jalpaiguri, India.
3. Honorary General Chair of **3rd International Conference on Innovations in Data Analytics (ICIDA 2024)** to be organized by Eminent College of Management and Technology (ECMT), Kolkata, India during 18-19 December, 2024.
4. General Chair of the **2024 International Conference on Computers, Information Processing and Advanced Education (CIPAE 2024)** held during 26-28 August, 2024 in Ottawa, Canada.
5. General Chair of the **Third International Conference on Human-Centric Smart Computing (IHCSC 2024)** held during 25–26 July, 2024 at the University of Engineering and Management, Jaipur, India.
6. General Chair of the **2024 Fifth International Symposium on Signal and Image Processing (ISSIP 2024)** held during 25-26 March, 2024 at Rochester Institute of Technology (A. U. K), Kosovo.
7. General Chair of the **Doctoral Symposium on Centered Computing (Human - 2024)** jointly organized by Computer Society of India, Kolkata Chapter and Sister Nivedita University, West Bengal held on 30 March, 2024.
8. General Chair of the **2023 Fifth Doctoral Symposium on Intelligence Enabled Research (DoSIER 2023)** held during 20-21 December, 2023 at Cooch Behar, India.
9. General Chair of the **2023 International Conference on Computers, Information Processing and Advanced Education (CIPAE 2023)** held during 26-28 August, 2023 in Ottawa, Canada.
10. General Chair of the **Second International Conference on Human-Centric Smart Computing (IHCSC 2023)** held during 5–6 July, 2023 at the University of Engineering and Management, Jaipur, India.
11. General Chair of the **Doctoral Symposium on Centered Computing (Human - 2023)** jointly organized by Computer Society of India, Kolkata Chapter and Techno India University, West Bengal held on 25 February, 2023.
12. General Chair of the **2022 Fourth Doctoral Symposium on Intelligence Enabled Research (DoSIER 2022)** held during 22-23 December, 2022 at Cooch Behar, India.
13. General Chair of the **2022 International Conference on Computers, Information Processing and Advanced Education (CIPAE 2022)** held during 26-28 August, 2022 in Ottawa, Canada.
14. General Chair of the **International Conference On Intelligent Systems And Human Machine Collaboration (ICISHMC 2022)** held during 08-09 July, 2022 at K. C. College of Engineering and Management Studies and Research, Thane, Maharashtra, India.

15. General Chair of the **First International Conference on Human-Centric Smart Computing (ICHCSC 2022)** held during 27–29 April, 2022 at the University of Engineering and Management, Jaipur, India.
16. General Chair of the **2021 Sixth International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2021)** held during 11-12 December, 2021 at Birbhum, India.
17. General Chair of the **2021 Third Doctoral Symposium on Intelligence Enabled Research (DoSIER 2021)** held during 12-13 November, 2021 at Cooch Behar, India.
18. Convenor of the **National Webinar on Copyright Drafting Essentials** held on 07 July, 2021 at Rajnagar Mahavidyalaya, Birbhum, India.
19. General Chair of the **2021 International Conference on Computers, Information Processing and Advanced Education (CIPAE 2021)** held during 25-27 May, 2021 in Ottawa, Canada.
20. Convenor of One Day Workshop on **Quantum Inspired Computational Intelligence Based Image Analysis** organized by the Department of Computer Science and Engineering, CHRIST (Deemed to be University), Bangalore, India on 27 February, 2021.
21. Convenor of **2020 International Seminar on Machine Intelligence (ISMI 2020)** organized by the Department of Computer Science and Engineering, CHRIST (Deemed to be University), Bangalore, India on 5 December, 2020.
22. General Chair of the **2020 Fifth IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2020)** held during 26-27 November, 2020 at Bangalore, India.
23. General Chair of the **2020 International Conference on Computers, Information Processing and Advanced Education (CIPAE 2020)** held during 16-18 October, 2020 in Ottawa, Canada.
24. General Chair of the **2020 Second Doctoral Symposium on Intelligence Enabled Research (DoSIER 2020)** held during 12-13 August, 2020 at Santiniketan, India.
25. General Chair of the **International Conference on Data Analytics & Management: An Indo-European Conference (ICDAM-2020)** held during 18-19 June, 2020 at Jan Wyzykowski University, Poland.
26. General Chair of the **2020 Third International Symposium on Signal and Image Processing (ISSIP 2020)** held during 21-22 October, 2020 at Zagreb, Croatia.
27. General Chair of the **Third International Conference on Innovative Computing and Communication (ICICC-2020)** held during 21-23 February, 2020 at New Delhi, India.
28. General Chair of the **2019 First Doctoral Symposium on Intelligence Enabled Research (DoSIER 2019)** held during 19-20 October, 2019 at Kolkata, India.
29. General Chair of the **Second International Conference on Innovative Computing and Communication (ICICC-2019)** organized by VSB-Technical University of Ostrava, Czech Republic during March 21 to March 22, 2019.
30. General Chair of the **2018 Fourth IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2018)** held during 22-23 November, 2018 at Kolkata, India.
31. General Chair of the **2018 Second International Symposium on Signal and Image Processing (ISSIP 2018)** held during 21-22 November, 2018 at Kolkata, India.
32. Program Chair of **CSI Annual Convention 2018** hosted by CSI Udaipur Chapter, Udaipur, India during December 14 to December 16, 2018.

33. General Chair of the **International Conference on Innovative Computing and Communication (ICICC-2018)** organized by Guru Nanak Institute of Management, New Delhi, India during May 5 to May 6, 2018.
34. General Chair of the **2017 Third IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2017)** held during 03-05 November, 2017 at Kolkata, India.
35. General Chair of the **First International Symposium on Signal and Image Processing (ISSIP 2017)** held during 01-02 November, 2017 at Kolkata, India.
36. Co-coordinator of the GIAN course on **Quantum Inspired Soft Computing** jointly organized by RCC Institute of Information Technology, Kolkata and Government College of Engineering and Leather Technology, Kolkata during 27-31 October, 2017.
37. Joint Coordinator of the Two week Faculty Development Program on **Hybrid Computational Intelligence** organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata in collaboration with National Institute of Technology Patna held during 17-27 July, 2017.
38. Convener of the TEQIP-II financially sponsored and IEEE CIS, Kolkata Chapter technically sponsored National Level Seminar on **Evolutionary Multi-Objective Optimization** held on 1st March, 2017 organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India.
39. Convener of the TEQIP-II sponsored National Level Faculty Development Program on **L<sup>A</sup>T<sub>E</sub>X: The Art of Technical Writing** held during 6-10 February, 2017 organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India.
40. General Chair of the **First IEEE International Conference on Advanced Computational and Communication Paradigms (ICACCP - 2017)** held during 08-10 September, 2017 at Sikkim, India.
41. Convener of the TEQIP-II sponsored One day workshop on **Amateur Radio in Linux Environments** held on 26.09.2016 organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India.
42. General Chair of the **2016 Second IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2016)** held during 23-25 September, 2016 at Kolkata, India.
43. General Chair of the **2016 International Conference on Wireless Communications, Network Security and Signal Processing (WCNSSP2016)** held during June 26-27, 2016 at Chiang Mai, Thailand.
44. Joint Convener of the TEQIP-II funded National Level Orientation & Faculty Development Programme on **Hybrid Intelligence** held during 18.01.2016 to 22.01.2016 organized by the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India.
45. General Chair of the **2015 IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2015)** held during 20-22 November, 2015 at Kolkata, India.
46. Joint Convener of the TEQIP-II funded National Level Faculty & Staff Development Programme on **Linux & System Administration** held during 20.07.2015 to 24.07.2015 organized by the Department of Information Technology and the Department of Computer Application, RCC Institute of Information Technology, Kolkata, India.
47. Joint Convener of the Three Day Student Workshop on **Soft Computing Tool Boxes in MATLAB** held during 22.04.2015 to 24.04.2015 in the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India.

48. General Chair of the **IEEE International Conference on Computational Intelligence and Communication Networks (ICCICN 2014)** held during 14-16 November, 2014 at Kolkata, India.
49. Convener of the TEQIP-II funded and IEEE CIS, Kolkata Chapter technically sponsored National Level Faculty Development Programme on **Computational Intelligence** held during 10.03.2014 to 14.03.2014 in the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India.
50. Convener of the TEQIP-II funded National Level Faculty Development Programme on **Recent Trends in Research and Research Methodology** held during 06.01.2014 to 10.01.2014 in the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India.
51. Convener of the TEQIP-II funded National Level Faculty Development Programme on **Image and Video Processing** held during 09.12.2013 to 13.12.2013 in the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India.
52. Convener of the TEQIP-II funded and IEEE CIS technically sponsored National Level Staff Development Programme on **Soft Computing and its Applications** held during 18.03.2013 to 22.03.2013 in the Department of Information Technology, RCC Institute of Information Technology, Kolkata, India.
53. Coordinated a one-day colloquium on **Latest Research Trends** on 18.11.2011.
54. Convener of the **IEEE National Conference on Computing and Communication Systems (CoCoSys-09)** held at University Institute of Technology, The University of Burdwan, Burdwan from January 02 to January 04, 2009.
55. Coordinator of the AICTE-ISTE sponsored winter school on **Multimedia Programming** held during 13.12.2004 to 24.12.2004 in the Department of Information Technology of Kalyani Government Engineering College, West Bengal, India.

#### EDITORIAL ACTIVITIES

1. Associate Editor of **Frontiers in Neurorobotics** from 09.09.2024.
2. Area Editor of **Applied Soft Computing**.
3. Section Editor of Data Science and Machine Learning Section of **Remote Sensing** (ISSN:2315-4675), Pisco Med Publishing, Singapore.
4. Member of the Editorial Board of **Trends on Scholarly Publishing**, SciOne, ACSE, UAE.
5. Member of the Editorial Advisory Board of the **Encyclopedia of Information Science and Technology**, 5th Edition edited by Mehdi Khosrow-Pour, Executive Editor, IGI Global, USA.
6. Member of the Editorial Advisory Board of **Cybersecurity Issues and Challenges for Business and FinTech Applications** edited by Saqib Saeed, SAUDI ARAMCO Cybersecurity Chair, Department of Computer Information Systems, College of Computer Science and Information Technology Imam Abdulrahman Bin Faisal University; Abdullah M. Almuhaideb, SAUDI ARAMCO Cybersecurity Chair, Department of Networks and Communications, College of Computer Science and Information Technology, Imam Abdulrahman Bin Faisal University; Neeraj Kumar, Thapar Institute of Engineering and Technology, India; Noor Zaman, Taylor's University, Malaysia; and Yousaf Bin Zikria, Yeungnam University, Republic of Korea.
7. Member of the Editorial Advisory Board of **Technology Road Mapping for Quantum Computing and Engineering** edited by Dr. Brojo Mishra, GIET University, India to be published by IGI Global in 2022.
8. Member of the Editorial Board of **Cloud Computing and Data Science (CCDS)**, **Universal Wiser Publisher, Singapore**
9. Member of the Editorial Board of **Trends in Scholarly Publishing, Asian Council of Science Editors, UAE**

10. Member of the Editorial Board of **Izvestia of the of South-West State University, Russia**
11. Member of the Editorial Advisory Board of **Artificial Intelligence for Accurate Analysis and Detection of Autism Spectrum Disorder** edited by Dr. Sandeep Kautish, Lord Buddha Education Foundation, Nepal & Asia Pacific University, Malaysia and Dr. Gaurav Dhiman, Government Bikram College of Commerce, India to be published by IGI Global in 2021.
12. Academic Editor of **PeerJ Computer Science Journal**
13. Founding Editor-in-Chief of **International Journal of Hybrid Intelligence**, Inderscience
14. Editor-in-Chief of IETI Transactions on Artificial Intelligence, IETI
15. Editor of **International Journal of Pattern Recognition Research**
16. Associate Editor of **Applied Soft Computing**, Elsevier B. V., **IET Quantum Communication**, IET, **IEEE Access**, **IET CAAI Transactions on Intelligence Technology**, IET, **Human-centric Computing and Information Sciences**, **IET Journal of Engineering**, IET, and **International Journal of BioInfo Soft Computing**
17. Member of the Editorial Board of **International Journal of Cognitive Computing in Engineering** from 03.07.2020.
18. Member of the Advisory Board of “analysis”, Cambridge International Publishing Ltd.
19. Member of the Editorial Advisory Board of **Modern Techniques for Agricultural Disease Management and Crop Yield Prediction** to be published by IGI Global (www.igi-global.com) in 2019.
20. Member of Editorial Board of **Research Spectrum of MSIT**, a research journal of MATS School of Information Technology, Raipur, India.
21. Appointed as the Editorial Advisory Member for the book **Encyclopedia of Organizational Knowledge, Administration, and Technologies**, IGI Global, USA.
22. Member of the Editorial Advisory Group of **Cambridge Scholar Publishing Ltd., UK** since 26.09.2017.
23. Member of the Editorial Advisory Board of **Nature-Inspired Algorithms for Big Data Frameworks** edited by Dr Hema Banati, Dyal Singh College, University of Delhi, Delhi, Dr. Shikha Mehta, Jaypee Institute of Information Technology, Noida and Dr. Parmeet Kaur, Jaypee Institute of Information Technology, Noida to be published by IGI Global, USA in 2018.
24. Member of the Editorial Advisory Board of **Big Data Analytics in HIV/AIDS Research** edited by Dr. Ali Al Mazari, ALFAISAL University, PS CoB, Saudi Arabia to be published by IGI Global, USA in 2017.
25. Member of the Editorial Board of **Glacier Journal for Scientific Research** from 08.09.2016.
26. Member of the International Editorial Advisory Board of **CyberTech Publishing, USA**.
27. Member of the International Editorial Advisory Board of **IGI Global Research Insights** published by IGI Global, Hershey, USA.
28. Member of the Technical Program Committee of the **Eight International Conference on Computational Intelligence and Communication Networks (CICN 2016)** held during December 23 to December 25, 2015 at Dehra Dun, India.
29. Member of the Editorial Advisory Board of **Modern Technologies for Big Data Classification and Clustering** to be published by IGI Global, Hershey, USA (Editors: Dr. Hari Seetha, Associate Professor, SCOPE, VIT University, Vellore, India; Prof.. M. Narasimha Murty, Dean, Faculty of Engineering, IISc, Bangalore, India; Prof..B. K. Tripathy, Sr. Professor, SCOPE, VIT University, Vellore, India)

30. Member of the Editorial Advisory Board of **Emerging Business Models and Managerial Strategies for the Nonprofit Sector** to be published by IGI Global, Hershey, USA (Editors: Lindy Lou West, Griffith Business School, Department of Accountancy, Finance and Economics, Griffith University, Australia; Andrew Charles Worthington, Griffith Business School, Department of Accountancy, Finance and Economics, Griffith University, Australia)
31. Member of the Editorial Advisory Board of **Handbook of Research on Computational Approaches for Digital Microfluidic Biochip Design** to be published by IGI Global, Hershey, USA (Editors: Dr. Dr. Indrajit Pan, RCC Institute of Information Technology, Kolkata, India and Dr. Tuhina Samanta, Indian Institute of Engineering, Science & Technology, Shibpur, India). Member of the Editorial Advisory Board of **Handbook of Research on Open Data Innovation in Business and Government** to be published by IGI Global, Hershey, USA (Editor: Dr. Cain Evans, Subject Leader Computer Science, School of Computing, Telecommunications and Networks, Faculty of Computing, Engineering and the Built Environment, City Centre Campus, Millennium Point, Curzon Street, Birmingham, U. K.)
32. Member of the Editorial Board of **International Journal of Engineering, Science and Technology (IJEST)**.
33. Member of the Editorial Advisory Board of **HETC Journal of Computer Engineering and Applications**.
34. Executive editor of the November 2008 online issue of **COMPUTER JAGAT**.
35. Member of the Advisory Council of the Bengali Technology Magazine **COMPUTER JAGAT**.

#### BOOK SERIES

1. **Advances in Disruptive Technologies and Generative Artificial Intelligence**; CRC Press, USA; Co-editor: Prof. (Dr.) Jyoti Sekhar Banerjee.
2. **Intelligent Data Driven Technology for Sustainable Environment**; CRC Press, USA; Co-editors: M. Koeppen, S. Gorbachev, K. Muhammad and N. K. Mondal.
3. **Quantum Machine Intelligence**; CRC Press, USA; Co-editors: Prof. E. Behrman.
4. **Springer Tracts in Human-Centered Computing**, Springer; Co-editors: J. Kacprzyk, M. Koeppen, V. Snasel and R. Kruse.
5. **Hybrid Computational Intelligence for Pattern Analysis and Understanding**, Elsevier, B. V.; Co-editors: N. Dey.
6. **Intelligent Signal and Data Processing (ISDP)**, Wiley, UK from 2018 to 2021.
7. **Computational Intelligence and Applications (CIA)**, CRC Press, USA.
8. **Frontiers in Computational Intelligence**, De Gruyter, Germany.
9. **Intelligent Biomedical Data Analysis**, De Gruyter, Germany; Co-editors: D. Gupta, U. Kose and B. L. Nguyen.
10. **Advances in Information Quality and Management (AIQM)**, IGI Global, USA.

#### WORKS OF MENTION

1. **Intelligent Multidimensional Data and Image Processing** edited by **S. De et al.**, IGI Global, USA, 2018. 429p, ISBN: 978-1522552468 has been ranked as the 6th Best Image Processing books of all time by BookAuthority (featured on CNN, Forbes and Inc – as the leading site for book recommendations).
2. **Hybrid Intelligence: Research and Applications** edited by **S. Bhattacharyya et al.**, CRC Press, 2019 (c2020). 220p, ISBN: 9781138320253 has been reviewed as RECOMMENDED by **CHOICE connect**, A publication of the Association of College and Research Libraries, A division of the American Library Association, USA. (<http://www.choiceconnect.org/webclipping/221275/w8krwrleah3dsssfcbtf89l9hegs0jrte3-2ij6jqwn0c6cf7w>)

3. J. Ray, **S. Bhattacharyya** and N. B. Singh (eds. J. Ray, A. Mukherjee, S. K. Dey and G. Klepac), "Portfolio Optimization and Asset Allocation With Metaheuristics: A Review", in *Metaheuristic Approaches to Portfolio Optimization*, pp. 1-26, IGI Global, USA, 2019 has been selected for inclusion as a reprinted chapter in the IGI Global Research Anthology titled **Research Anthology on Multi-Industry Uses of Genetic Programming and Algorithms** published in February 2021.

OUTREACH  
ACTIVITIES

1. Appointed as the Judge for the **Richard E. Merwin Scholarship Spring 2024 Cycle** by IEEE Computer Society, USA.
2. Member of the Research Advisory Committee of **Indian Institute of Information Technology (IIIT), Ranchi, India** since 06.11.2023.
3. Privileged Mentor of **NOKIA**.
4. Member of the **Institute of Electronics and Computer Science (IEC Science) Conference Quality Committee (ICQC), USA**.
5. Member of Advisory Board of **Swiss Innovation Lab, Switzerland**.
6. Member of the Expert Group for a European Commission service contract on **High Tech Skills for Industry**.
7. Member of 2018 Board of Directors of **International Engineering and Technology Institute, Hong Kong**.
8. Academic Advisor of **National Cyber Safety and Security Standards (NCSSS), New Delhi**
9. Member of Board of Discipline of **Maulana Abul Kalam Azad University of Technology** since July 30, 2018.
10. **Academic Outreach Advisor** of **Eureka Education Group, Oxford, UK**.
11. Inducted into the **Doctoral Committee** of the Department of Information Technology of Indian Institute of Information Technology Srirangam, BIT - Anna University Campus, Trichy, Tamilnadu, India.
12. Member of the **Academic Advisory Committee (AAC)** of MATS School of Information Technology, MATS University, Raipur, C. G.
13. Mentor of **Institute for Research and Development India (ird india)**, India (<http://ird-india.com/our-mentors/>).
14. Regional Student Co-ordinator for Region – II of **Computer Society of India** for 2015-2016.

FELLOWSHIPS OF  
SCIENTIFIC AND  
PROFESSIONAL  
SOCIETIES

1. Full Fellow of The Royal Society for Arts, Manufacturers and Commerce (RSA)
2. Life Fellow of Optical Society of India
3. Life Fellow of ISRD, UK
4. Fellow of IET (UK) (Membership No. F 1100601135)
5. Fellow of IFERP, India (Membership No. FM9196000001)
6. Fellow of IE(I) (Membership No. F-123599-7)
7. Fellow of IETE, India (Membership No. F 500371)

MEMBERSHIPS OF  
SCIENTIFIC AND  
PROFESSIONAL  
SOCIETIES

1. Member of the Asia Pacific Neural Network Society (APNNS), Thailand.
2. Founding President of Asia-Pacific Artificial Intelligence Association (AAIA), Kolkata Branch since May 01, 2022.
3. Senior Member of Asia-Pacific Artificial Intelligence Association (AAIA), Hong Kong
4. Full Foreign Member of Russian Academy of Engineering, Russia (Membership No. 1705)
5. Full Foreign Member of Russian Academy of Natural Sciences, Russia (Membership No. MRO-362)
6. Life Member of ALI, India; CRSI, India (Membership No. L/0916)
7. Life Member of ICCI, India
8. Life Member of IUPRAI, India (Membership No. L-206)
9. Life Member of CSI, India (Membership No. I1502271)
10. Life Member of ISTE, India; CEGR, India
11. Senior Member of IEEE, USA (Membership No. 90326520)
12. Senior Member of ACM, USA (Membership No. 0059476)
13. Senior Member of IETI, Hong Kong (Membership No. 20160130CC)
14. Member of SDIWC (Membership No. 20574); IEEE CIS, USA; IEEE CS, USA; IAENG, Hong Kong (Membership No.62581); IRSS, Poland; IAASSE, USA; CSTA, USA (Membership No. 0059476); MIR Labs Society; IDES, India (Membership No. 5010)
15. Chartered Engineer of IE(I)
16. Member of International Association of Engineers (Hong Kong) Societies of:
  - Artificial Intelligence
  - Bioinformatics
  - Computer Science
  - Imaging Engineering
17. Member of QIndia (Quantum Computing India)

POSITIONS OF  
AUTHORITY HELD

Member of the International Advisory Program Committee of **International Conference on Computational Intelligence and Information Retrieval (CIIR 2025)** organized by Sister Nivedita University (SNU) during April 24 to April 25, 2025.

Member of the Technical Program Committee of **6th International Conference on Signal Processing and Machine Learning (SIGML 2025)** held in Copenhagen, Denmark during January 25 to January 26, 2025.

Member of the Technical Program Committee of **14th International Conference on Information Theory (IT 2025)** held in Copenhagen, Denmark during January 25 to January 26, 2025.

Member of the Technical Program Committee of **14th IEEE International Conference on Communication Systems and Network Technologies (CSNT 2025)** held VIT Bhopal University, KotriKalan, with technical support of IETE Gwalior and IEEE Computer Society Chapter during 07 March to 08 March, 2025.

Member of the Technical Program Committee of **5th International Conference on Machine Learning Techniques (MLTEC 2024)** held in Melbourne, Australia during November 09 to November 10, 2024.

Member of the Technical Program Committee of **5th International Conference on NLP Techniques and Applications (NLPTA 2024)** held in London, United Kingdom during November 23 to November 24, 2024.

Member of the Technical Program Committee of **2nd International Conference on Computational Science & Applications (COMSAP 2024)** held in Dubai, UAE during December 28 to December 29, 2024.

Co-Chair of the **2025 6th Asia-Pacific Conference on Image Processing, Electronics and Computers (IPEC2025)** held in Dalian, China during April 18 to April 20, 2025.

Member of the Technical Program Committee of **16th International Conference on Wireless, Mobile Network & Applications (WiMoA 2024)** held in Zurich, Switzerland during November 16 to November 17, 2024.

Member of the International Advisory Committee of **3rd International Conference on Inventive Computing and Informatics (ICICI 2025)** held at S.E.A. College of Engineering and Technology, Bangalore, Karnataka, India during June 4 to June 6, 2025.

Member of the Technical Program Committee of **International Conference on Operations Research and Applications (CORAJ 2024)** held during December 28 to December 29, 2024.

Member of the Technical Program Committee of **10th International Conference on Software Security (ICSS 2024)** held in London, United Kingdom during November 23 to November 24, 2024.

Member of the Technical Program Committee of **2025 3rd International Conference on Intelligent Perception and Computer Vision (CIPCV 2025)** held in Hangzhou, China during May 16 to May 18, 2025.

Member of the Technical Program Committee of **5th International Conference on VLSI & Embedded Systems (VLSIE 2024)** held in Vienna, Austria during October 26 to October 27, 2024.

Member of the Advisory Committee of **5th International Conference on Pervasive Computing and Social Networking (ICPCSN 2025)** held at RP Sarathy Institute of Technology Salem, India during May 14 to May 15, 2025.

Member of the Advisory Committee of **4th International Conference on Sentiment Analysis and Deep Learning (ICSADL 2025)** held at Far Western University Bhimdatta, Nepal during February 18 to February 19, 2025.

Member of the Advisory Committee of **International Conference on Expert Clouds and Applications (ICOECA 2025)** held at R. V. College of Engineering, Bengaluru, India during March 6 to March 7, 2025.

Member of the Technical Program Committee of **2nd International Conference on Vision Computing (VISCOP 2024)** held during October 05 to October 06, 2024.

Member of the Technical Program Committee of **10th International Conference on Signal Processing and Pattern Recognition (SIPR 2024)** held in Sydney, Australia during December 21 to December 22, 2024.

Member of the Technical Program Committee of **2nd International Conference on Advanced**

**Computational Intelligence (ACINT 2024)** held in Dubai, UAE during December 28 to December 29, 2024.

Member of the Technical Program Committee of **10th International Conference of Networks, Communications, Wireless and Mobile Computing (NCWC 2024)** held in Sydney, Australia during December 21 to December 22, 2024.

Member of the Technical Program Committee of **5th International Conference on Cloud and Big Data (CLBD 2024)** held in Vienna, Austria during October 26 to October 27, 2024.

Member of the Technical Program Committee of **15th International Conference on Ubiquitous Computing (UBIC 2024)** held in Zurich, Switzerland during November 16 to November 17, 2024.

Member of the Technical Program Committee of **2nd International Conference on Information Technology, Control and Automation (ITCAU 2024)** held in Dubai, UAE during December 28 to December 29, 2024.

Member of the Technical Program Committee of **15th International conference on Database Management Systems (DMS 2024)** held in Vienna, Austria during October 26 to October 27, 2024.

Member of the Technical Program Committee of **5th International Conference on Internet of Things & Embedded Systems (IoTE 2024)** held in London, United Kingdom during November 23 to November 24, 2024.

Member of the Technical Program Committee of **5th International Conference on IoT, Blockchain & Cloud Computing (IBCOM 2024)** held in Zurich, Switzerland during November 16 to November 17, 2024.

Member of the Technical Program Committee of **16th International Conference on Grid Computing (GridCom 2024)** held in Zurich, Switzerland during November 16 to November 17, 2024.

Member of the Technical Program Committee of **12th International Conference on Signal, Image Processing and Pattern Recognition (SIPP 2024)** held in Sydney, Australia during September 21 to September 22, 2024.

Member of the Technical Program Committee of **13th International Conference on Signal, Image Processing and Pattern Recognition (SPPR 2024)** Conference held in Zurich, Switzerland during November 16 to November 17, 2024.

Member of the Technical Program Committee of **14th International Conference on Computer Science, Engineering and Applications (ICCSEA 2024)** held Zurich, Switzerland during November 16 to November 17, 2024.

Member of the Technical Program Committee of **11th International Conference on Computer Science and Engineering (CSEN 2024)** held in Sydney, Australia during December 21 to December 22, 2024.

Member of the Technical Program Committee of **2024 5th International Conference on Decision Aid Sciences and Applications (DASA'22)** held in Bahrain during December 11 to December 12, 2022.

Technical Program Chair of the **Third International Conference on Augmented Intelligence and Sustainable Systems (ICAISS-2025)** held in Trichy, India during May 21 to May 23, 2025.

Member of the Technical Program Committee of **2025 International Conference on Control, Automation, and Instrumentation (IC2AI25)** held in Beirut, Lebanon during February 11 to February 13 2025.

Member of the Technical Program Committee of **11th International Conference on Foundations of Computer Science & Technology (CST 2024)** held in Vienna, Austria during October 26 to October 27, 2024.

Member of the Technical Program Committee of **2nd International Conference on Smart Systems and Power Management (IC2SPM)** organized by IEEE Joint Chapter IE/PEL/CAS/PE Lebanon and hosted by The Lebanese International University in Lebanon during November 28 to November 29, 2024.

Member of the Technical Program Committee of **2nd International Conference on Computer Graphics, Animation & Signal Processing (CGASP 2024)** held during August 10 to August 11, 2024.

Member of the Technical Program Committee of **5th International Conference on Applied Control, Electrical and Electronics Engineering (CEEE 2024)** held during August 10 to August 11, 2024.

Member of the Technical Program Committee of **13th International Conference on Cryptography and Information Security (CRYPIS 2024)** held in Toronto, Canada during September 28 to September 29, 2024.

Member of the Technical Program Committee of **13th International Conference on Parallel, Distributed Computing Technologies and Applications (PDCTA 2024)** held in Copenhagen, Denmark during September 21 to September 22, 2024.

Member of the Technical Program Committee of **8th International Conference on Electrical & Computer Engineering (E&C 2024)** held during July 13 to July 14, 2024.

Member of the Technical Program Committee of **8th International Conference on Trends in Mechanical Engineering (MECE 2024)** held during July 13 to July 14, 2024.

Member of the Technical Program Committee of **12th International Conference on Computational Science and Engineering (CSE 2024)** held in Dubai, UAE during August 24 to August 25, 2024.

Member of the Technical Program Committee of **16th IEEE International Conference on Computational Intelligence and Communication Networks (CICN 2024)** held in Ajman, UAE during December 22 to December 23, 2024.

Member of the Technical Program Committee of **2nd International Conference on Machine Learning and IoT (MLIoT 2024)** held during August 10 to August 11, 2024.

Member of the Technical Program Committee of **2nd International Conference on Blockchain and Applications (BLKCA 2024)** held during August 10 to August 11, 2024.

Member of the Technical Program Committee of **The International Conference on Microelectronics (IEEE-ICM2024)** held in Doha, Qatar during December 14 to December 27 2024.

Member of the Technical Program Committee of **4th International Conference on Big Data, IOT & NLP (BINLP 2024)** held in Toronto, Canada during July 20 to July 21, 2024.

Member of the Technical Program Committee of **12th International Conference of Networks and Communications (NC 2024)** held in Toronto, Canada during September 28 to September 29, 2024.

Member of the Technical Program Committee of **8th International Conference on Soft Computing, Mathematics and Control (SMC 2024)** held during July 13 to July 14, 2024.

Member of the Technical Program Committee of **11th International Conference on Wireless and Mobile Network (WiMNeT 2024)** held in Chennai, India during August 17 to August 18, 2024.

Member of the Technical Program Committee of **16th International Conference on Networks & Communications (NeTCoM 2024)** held in London, United Kingdom during July 27 to July 28, 2024.

Member of the Technical Program Committee of **5th International Conference on Data Science and Cloud Computing (DSCC 2024)** held in Dubai, UAE during August 24 to August 25, 2024.

Member of the Technical Program Committee of **3rd International Conference on Computer Science and Information Technology (COMSCI 2024)** held during July 13 to July 14, 2024.

Member of the Technical Program Committee of **3rd International Conference on Machine Learning, NLP and Data Mining (MLDA 2024)** held during July 13 to July 14, 2024.

Member of the Technical Program Committee of **8th International Conference on Electrical & Computer Engineering (E & C 2024)** held during July 13 to July 14, 2024.

Member of the Technical Program Committee of **10th International Conference on VLSI and Applications (VLSIA 2024)** held in Copenhagen, Denmark during June 29 to June 30, 2024.

Member of the Technical Program Committee of **8th International Conference on Bioscience & Engineering (BIOENG 2024)** held during May 11 to May 12, 2024.

Member of the Technical Program Committee of **5th International Conference on Big Data, Machine Learning and IoT (BMLI 2024)** held in Copenhagen, Denmark during June 29 to June 30, 2024.

Member of the Technical Program Committee of **8th International Conference on Computer Science and Information Technology (COMIT 2024)** held in Chennai, India during August 17 to August 18, 2024.

Member of the International Advisory Committee of **4th International Conference on Ubiquitous Intelligent Systems (ICUIS 2024)** to be organized by Shree Venkateshwara Hi-Tech Engineering College, Tamil Nadu, India during December 12 to December 13, 2024.

Member of the International Advisory Committee of **International Conference on Computational Intelligence for Information, Security, and Communication Applications (CIISCA-2024)** to be organized by the Department of Artificial Intelligence & Data Science, The Global Academy of Technology, Bengaluru, India in association with the prestigious Indian Institute of Information Technology, Allahabad during July 19 to July 20, 2024.

Member of the Technical Program Committee of **2nd International Conference on Cloud, IoT and Security (CIOS 2024)** held during May 11 to May 12, 2024.

Member of the Technical Program Committee of **The 10th International Workshop on Mobile Applications (MobiApps 2024)** held in Vienna, Austria during August 19 to August 21, 2024.

Member of the Technical Program Committee of **5th International Conference on Advances in Artificial Intelligence Techniques (ArIT 2024)** held in London, United Kingdom during July 27 to July 28, 2024.

Member of the International Liaison Committee of **The International Conference on Frontier in Computer Science and Information Technology (FOCUS - 2024)** held in Kuala Lumpur, Malaysia during November 27 to November 28, 2024.

Member of the Technical Program Committee of **8th International Conference on Recent advances in Physics (PHY 2024)** held during May 11 to May 12, 2024.

Member of the Technical Program Committee of **5th International Conference on Big Data and Applications (BDAP 2024)** held in Sydney, Australia during June 22 to June 23, 2024.

Member of the Technical Program Committee of **2nd International Conference on Soft Computing, Data mining and Data Science (SCDD 2024)** held during May 11 to May 12, 2024.

Member of the Technical Program Committee of **2nd International Conference on Cloud, IoT and Security (CIOS 2024)** held during May 11 to May 12, 2024.

Member of the Technical Program Committee of **The Fifteenth International Conference on Swarm Intelligence (ICSI'2024)** held Xining, Qinghai province, China during August 23 to August 26, 2024.

Member of the Technical Program Committee of **16th International Conference on Network and Communications Security (NCS 2024)** held in London, United Kingdom during July 27 28, 2024.

Member of the Technical Program Committee of **10th International Conference on Networks, Mobile Communications and Telematics (NMOCT 2024)** held in Toronto, Canada during July 20 to July 21, 2024.

Member of the International Advisory Committee of **4th International Conference on Emerging Technologies in Data Mining and Information Security (IEMIS 2024)** to be organized by Eminent College of Management and Technology (ECMT), India during September 28 to September 29, 2024.

Member of the Technical Program Committee of **12th International Conference of Information Technology, Control and Automation (ITCA 2024)** held in Copenhagen, Denmark during April 27 to April 28, 2024.

Member of the Technical Program Committee of **5th International Conference on Big Data and Applications (BDAP 2024)** held in Sydney, Australia during June 22 to June 23, 2024.

Member of the Technical Program Committee of **4th International Conference on Disruptive Technologies Tech Ethics and Artificial Intelligence (DiTTet 2024)** held in Salamanca, Spain during July 03 to July 05, 2024.

Publicity Chair of **31st International Conference on Neural Information Processing (ICONIP)** held in Auckland, New Zealand during December 02 to December 06, 2024.

Publicity Chair of **4th International Conference on Novel & Intelligent Digital Systems (NiDS 2024)** held in Athens, Greece during September 25 to September 27, 2024.

Member of the Technical Program Committee of **5th International Conference on Natural Language Processing and Machine Learning (NLPML 2024)** held in Melbourne, Australia during April 20 to April 21, 2024.

Member of the Technical Program Committee of **11th International Conference on Computer Science and Information Technology (CSIT 2024)** held in Sydney, Australia during June 22 to June 23, 2024.

Member of the Technical Program Committee of **11th International Conference on Signal Processing (CSIP 2024)** held in Copenhagen, Denmark during June 29 to June 30, 2024.

Member of the Technical Program Committee of **10th International Conference on Networks & Communications (NCOM 2024)** held in Zurich, Switzerland during May 18 to May 19, 2024.

Member of the Technical Program Committee of **11th International Conference on Advanced Computing (ADCO 2024)** held in Sydney, Australia during March 23 to March 24, 2024.

Member of the Technical Program Committee of **5th International Conference on Cloud, Big Data and Web Services (CBW 2024)** held in Vancouver, Canada during May 25 to May 26, 2024.

Member of the Technical Program Committee of **5th International Conference on Natural Language Processing and Applications (NLPA 2024)** held in Sydney, Australia during June 22 to June 23, 2024.

Member of the Technical Program Committee of **12th International Conference of Security, Privacy and Trust Management (SPTM 2024)** held in Sydney, Australia during June 22 to June 23, 2024.

Member of the Technical Program Committee of **Artificial Intelligence and Natural Language Conference (AINL 2024)** held in Almaty, Kazakhstan during April 25 to April 26, 2024.

Member of the Technical Program Committee of **5th International Conference on Big Data, Blockchain and Security (BDBS 2024)** held in Sydney, Australia during March 23 to March 24, 2024.

Member of the Technical Program Committee of **5th International Conference on Big Data and Machine Learning (BDML 2024)** held in Zurich, Switzerland during May 18 to May 19, 2024.

Member of the Technical Program Committee of **10th International Conference on Data Mining and Applications (DMA 2024)** held in Melbourne, Australia during April 20 to April 21, 2024.

Member of the Technical Program Committee of **2nd International Conference on Soft Computing, Data mining and Data Science (SCDD 2024)** held during May 11 to May 12, 2024.

Member of the Technical Program Committee of **10th International Conference on Networks, Mobile Communication (NMCO 2024)** held in Vienna, Austria during March 16 to March 17, 2024.

Member of the Technical Program Committee of **10th International Conference on Computer Science, Information Technology and Applications (CSITA 2024)** held in Vienna, Austria during March 16 to March 17, 2024.

Member of the Technical Program Committee of **The International Joint Conference on Neural Networks (IJCNN 2024)** held in Yokohama, Japan during June 30 to July 05, 2024.

Member of the Technical Program Committee of **The IEEE Congress on Evolutionary Computation (IEEE CEC 2024)** held in Yokohama, Japan during June 30 to July 05, 2024.

Member of the Technical Program Committee of **16th International Conference on Computer Networks & Communications (CoNeCo 2024)** held in Copenhagen, Denmark during April 27 to April 28, 2024.

Member of the Technical Program Committee of **12th International Conference on Foundations of Computer Science & Technology (FCST 2024)** held in Copenhagen, Denmark during April 27 to April 28, 2024.

Member of the Technical Program Committee of **13th International Conference on Control, Modelling, Computing and Applications (CMCA 2024)** held in Sydney, Australia during March 23 to March 24, 2024.

Member of the Technical Program Committee of **5th International Conference on Big Data and Blockchain (BDAB 2024)** held in Vancouver, Canada during February 24 to February 25, 2024.

Member of the Technical Program Committee of **10th International Conference on Data Mining and Applications (DMAP 2024)** held in Vienna, Austria during March 16 to March 17, 2024.

Member of the Technical Program Committee of **2nd International Conference on Data Mining, Big Data and Machine Learning (DBML 2024)** held during March 09 to March 10, 2024.

Member of the Technical Program Committee of **15th International Conference on Ad hoc, Sensor & Ubiquitous Computing (ASUC 2024)** held in Vancouver, Canada during May 25 to May 26, 2024.

Member of the Technical Program Committee of **10th International Conference on Data Mining and Applications (DMAP 2024)** held in Vienna, Austria during March 16 to March 17, 2024.

Member of the Technical Program Committee of **11th International Conference on Bioinformatics and Bioscience (ICBB 2024)** held in Zurich, Switzerland during January 20 to January 21, 2024.

Member of the Technical Program Committee of **10th International Conference on Cryptography and Information Security (CRIS 2024)** held in April 20 - 21, 2024, on Melbourne, Australia

Member of the Technical Program Committee of **8th International Conference on Biomedical Engineering and Science (BES 2024)** held in Sydney, Australia during March 23 to March 24, 2024.

Member of the Technical Program Committee of **4th International Conference on Novel & Intelligent Digital Systems (NiDS 2024)** held in Athens, Greece during September 25 to September 27, 2024.

Member of the Technical Program Committee of **5th International Conference on Big Data (CBDA 2024)** to held in Melbourne, Australia during April 20 to April 21, 2024.

Member of the Technical Program Committee of **3rd International Conference on Automation and Engineering (AUEN 2024)** held in January 13 to January 14, 2024.

Member of the Technical Program Committee of **13th International Conference on Software Engineering and Applications (SEAS 2024)** held in Sydney, Australia during March 23 to March 24, 2024.

Member of the Technical Program Committee of **5th International Conference on Data Mining & Machine Learning (DMML 2024)** to held in Sydney, Australia during March 23 to March 24, 2024.

Member of the Technical Program Committee of **10th International Conference on Natural Language Processing (NATP 2024)** held in Vancouver, Canada during February 24 to February 25, 2024.

Member of the Technical Program Committee of **5th International Conference on Signal Processing, VLSI Design & Communication Systems (SVC 2024)** held in Vancouver, Canada during February 24 to February 25, 2024.

Member of the Technical Program Committee of **4th International Conference on AI, Machine Learning and Applications (AIMLA 2024)** held in Copenhagen, Denmark during January 27 to January 28, 2024.

Member of the Technical Program Committee of **2nd International Conference IOT, Blockchain and Cryptography (IOTBC 2024)** held during March 09 to March 10, 2024.

Member of the Technical Program Committee of **8th International Conference on Networks and Communications (NET 2024)** held in Dubai, UAE during February 17 to February 18, 2024.

Member of the Technical Program Committee of **4th International Conference on IOT, Big Data and Security (IOTBS 2024)** held in Copenhagen, Denmark during January 27 to January 28, 2024.

Member of the Technical Program Committee of **10th International conference on Advanced Computing (ADCOM 2024)** held in Vancouver, Canada during February 24 to February 25, 2024.

Member of the Technical Program Committee of **8th International Conference on Networks and Communications (NET 2024)** held in Dubai, UAE during February 17 to February 18, 2024.

Member of the Technical Program Committee of **2nd International Conference IOT, Blockchain and Cryptography (IOTBC 2024)** held during March 09 to March 10, 2024.

Lead Guest Editor of Virtual special issue on quantum inspired soft computing for intelligent data processing in **Applied Soft Computing**; Publisher: Elsevier, BV. in 2023.

Session Chair in **The 30th International Conference on Neural Information Processing (ICONIP2023)** held in Changsha, China during November 20 to November 23, 2023.

Member of the Technical Program Committee of **15th International Conference on Wireless, Mobile Network & Applications (WiMoA 2023)** held in Sydney, Australia during December 23 to December 24, 2023.

Member of the Technical Program Committee of **17th International Conference on Network Security & Applications (CNSA 2024)** held in Zurich, Switzerland during January 20 to January 21, 2024.

Steering Chair of **2024 2nd International Conference on Communications, Computing and Artificial Intelligence (CCCAI 2024)** held in Jeju, Korea during June 21 to June 23, 2024.

Member of the Technical Program Committee of **12th International Conference on Database and Data Mining (DBDM 2024)** held in Copenhagen, Denmark during January 27 to January 28, 2024.

Member of the Technical Program Committee of **3rd International Conference on Computing and Information Technology Trends (CCITT 2024)** held during January 13 to January 14, 2024.

Member of the Technical Program Committee of **12th International Conference on Signal & Image Processing (SIP 2023)** held in Zurich, Switzerland during November 18 to November 19, 2023.

Member of the Technical Program Committee of **13th International Conference on Information Theory (IT 2024)** held in Zurich, Switzerland during January 20 to January 21, 2024.

Member of the Technical Program Committee of **4th International Conference on NLP Techniques and Applications (NLPTA 2023)** held in London, United Kingdom during November 25 to November 26, 2023.

Member of the Technical Program Committee of **3rd International Conference on NLP & Data Mining (NLDM 2023)** held in Zurich, Switzerland during November 18 to November 19, 2023.

Member of the Technical Program Committee of **10th IEEE Asia-Pacific Conference on Computer Science and Data Engineering 2023 (CSDE 2023)** held in Shangir-La's Fijian Resort, Yanuca Island, Nadi, Fiji during December 04 to December 06, 2023.

Member of the Technical Program Committee of **7th International Conference on Computer Science and Information Technology (COMIT 2023)** held in Zurich, Switzerland during November 18 to November 19, 2023.

Member of the Technical Program Committee of **9th International Conference on Artificial Intelligence and Applications (AI 2023)** held in Sydney, Australia during October 21 to October 22, 2023.

Member of the Technical Program Committee of **15th International Conference on Grid Computing (GridCom 2023)** held in Sydney, Australia during December 23 to December 24, 2023.

Member of the Technical Program Committee of **14th International Conference on Ubiquitous Computing (UBIC 2023)** held in Sydney, Australia during December 23 to December 24, 2023.

Member of the Technical Program Committee of **9th International Conference on Data Mining and Database Management Systems (DMDBS 2023)** held in Dubai, UAE during December 16 to December 17, 2023.

Member of the Technical Program Committee of **13th International Conference on, Engineering and Applications (ICCSEA 2023)** held in Sydney, Australia during December 23 to December 24, 2023.

Member of the Technical Program Committee of **15th International Conference on Web services & Semantic Technology (WeST 2023)** held in London, United Kingdom during November 25 to November 26, 2023.

Member of the Technical Program Committee of **International Conference on Vision Computing (VISCOM 2023)** held during October 07 to October 08, 2023.

Member of the Technical Program Committee of **7th International Conference on Advances in Engineering (AE 2023)** held during September 09 to September 10, 2023.

Member of the Technical Program Committee of **10th International Conference on Computer Networks & Data Communications (CNDC 2023)** held in London, United Kingdom during November 25 to November 26, 2023.

Member of the Technical Program Committee of **9th International Conference of Networks, Communications, Wireless and Mobile Computing (NCWC 2023)** held in Vienna, Austria during October 28 to October 29, 2023.

Member of the Technical Program Committee of **10th International Conference on Computer Science and Engineering (CSEN 2023)** held in Vienna, Austria during October 28 to October 29, 2023.

Member of the Technical Program Committee of **9th International Conference on Signal Processing and Pattern Recognition (SIPR 2023)** held in Vienna, Austria during October 28 to October 29, 2023.

Member of the Technical Program Committee of **9th International Conference on Artificial Intelligence and Applications (AI 2023)** held in Sydney, Australia during October 21 to October 22, 2023.

Member of the Technical Program Committee of **4th International Conference on Software Engineering and Managing Information Technology (SEMIT 2023)** held in Sydney, Australia during December 23 to December 24, 2023.

Member of the Technical Program Committee of **9th International Conference on Data Mining (DTMN 2023)** held in Copenhagen, Denmark during September 16 to September 17, 2023.

Member of the Technical Program Committee of **9th International Conference on Information Technology Converge Services (ITCON 2023)** held in Dubai, UAE during December 16 to December 17, 2023.

Member of the Technical Program Committee of **4th International Conference on Big Data, IOT and Blockchain (BIBC 2023)** held in Vienna, Austria during October 28 to October 29, 2023.

Member of the Technical Program Committee of **14th International Conference on Commu-**

**nications Security & Information Assurance (CSIA 2023)** held in Sydney, Australia during December 23 to December 24, 2023.

Member of the Technical Program Committee of **2024 5th Asia-Pacific Conference on Image Processing, Electronics and Computers (IPEC2024)** held in Dalian, China during April 12 to April 14, 2024.

Member of the Technical Program Committee of **International Conference on Blockchain, Cybersecurity and Internet of Things (BCYIoT 2023)** held during October 12 to October 13, 2023.

Member of the Technical Program Committee of **International Conference on Information Science and Techniques (ISTECH 2023)** held during December 30 to December 31, 2023.

Member of the Technical Program Committee of **2023 International Conference on Microelectronics (IEEE-ICM2023)** held in Abu Dhabi, UAE during December 17 to December 20, 2023.

Member of the Technical Program Committee of **11th International Conference on Soft Computing (SCOM 2023)** held in Chennai, India during August 19 to August 20, 2023.

Member of the Technical Program Committee of **9th International Conference on Networks, Mobile Communications and Telematics (NMOCT 2023)** held in Sydney, Australia during October 21 to October 22, 2023.

Tutorial Chair of **International Conference on Computer, Vision and Intelligent Technology (ICCVIT 2023)** held in Chenzhou, China during August 25 to August 28, 2023.

Member of the Technical Program Committee of **4th International Conference on Cloud Computing, Security and Blockchain (CLSB 2023)** held in Copenhagen, Denmark during September 16 to September 17, 2023.

Member of the Technical Program Committee of **3rd International Conference on Advanced Computing and Applications (ICACA 2024)** held at Techno Main Salt Lake, West Bengal, India during February 23 To February 24, 2024.

Member of the Technical Program Committee of **4th International Conference on Big Data & IoT (BDIoT 2023)** held in Copenhagen, Denmark during September 16 to September 17, 2023.

Member of the Technical Program Committee of **1st International Conference on Computational Intelligence with Engineering Applications (CIEA 2024)** held in Sydney, Australia during March 01 to March 02, 2024.

Member of the Technical Program Committee of **2024 IEEE 13th International Conference on Communication Systems and Network Technologies (CSNT)** to be organized by Gyan Ganga Institute of Technology Jabalpur and MIR Labs, Gwalior, with technical support of IETE Gwalior and IEEE Computer Society Chapter.

Member of the Technical Program Committee of **3rd International Conference on Networking, Communications and Information Technology (NetCIT2023)** held in Wuhan, China during December 28 to December 29, 2023.

Member of the Technical Program Committee of **4th International Conference on Data Science and Machine Learning (DSML 2023)** held in Vienna, Austria during October 28 to October

29, 2023.

Member of the Technical Program Committee of **15th International Conference on Networks & Communications (NeCoM 2023)** held in Toronto, Canada during September 23 to September 24, 2023.

Member of the Technical Program Committee of **4th IEEE International Multidisciplinary Conference on Engineering Technology (IMCET 23)** held in Beirut, Lebanon during December 12 to December 14, 2023.

Member of the Technical Program Committee of **11th International Conference on Computational Science and Engineering (CSE 2023)** held in Chennai, India during August 19 to August 20, 2023.

Member of the Technical Program Committee of **8th International conference on Intelligent Computing and Control System (ICICCS 2024)** held in Madurai, India during May 22 to May 24, May 2024.

Member of the Technical Program Committee of **9th International Conference on Data Mining (DTMN 2023)** held in Copenhagen, Denmark during September 16 to September 17, 2023.

Member of the Advisory Committee of **International Conference on Computational Technologies and Electronics (ICCTE-2023)** to be organized by the Department of Computer Science and Technology, University of North Bengal, India during November 23 to November 25, 2023.

Member of the Technical Program Committee of **2nd International Conference on Machine Learning, NLP and Data Mining (MLDA 2023)** held during July 15 to July 16, 2023.

Member of the Technical Program Committee of **9th International Conference on Data Mining (DaMi 2023)** held in Copenhagen, Denmark during June 24 to June 25, 2023.

Member of the Technical Program Committee of **2nd International Conference on Artificial Intelligence Science and Applications in Industry and Society (CAISAIS 2023)** held in Galala, Egypt during September 03 to September 05, 2023.

Member of the Technical Program Committee of **4th International Conference on Cloud Computing, Security and Blockchain (CLSB 2023)** held in Copenhagen, Denmark during September 16 to September 17, 2023.

Member of the Technical Program Committee of **4th International Conference on Big Data and Applications (BDAP 2023)** held in Copenhagen, Denmark during June 24 to June 25, 2023.

Member of the Technical Program Committee of **10th International Conference on Computer Science, Engineering and Information Technology (CSEIT 2023)** held in Sydney, Australia during June 17 to June 18, 2023.

Member of the Technical Program Committee of **International Conference on Computer Science, Engineering and Artificial Intelligence (CSEAI 2023)** held during May 13 to May 14, 2023.

Member of the International Advisory Committee of **International Conference on Security, Surveillance and Artificial Intelligence (ICSSAI-2023)** to be organized by Techno India University, West Bengal, India during December 01 to December 02, 2023.

Member of the Technical Program Committee of **9th International Conference on Data Mining (DaMi 2023)** held in Copenhagen, Denmark during June 24 to June 25, 2023.

Member of the Technical Program Committee of **9th International Conference on Signal and Image Processing (SIGPRO 2023)** held in Copenhagen, Denmark during September 16 to September 17, 2023.

Member of the Technical Program Committee of **2nd International Conference on Artificial Intelligence Advances (AIAD 2023)** held during July 15 to July 16, 2023.

Session Chair of the Technical Session titled “Information Retrieval” on 23 March, 2023 in the **International Conference on Data Science and Communication (ICTDsC – 2023)** organized by Siliguri Institute of Technology, West Bengal, India during March 23 to March 24, 2023.

Member of the Technical Program Committee of **International Conference on Cloud, IoT and Security (CIOS 2023)** held during May 13 to May 14, 2023.

Member of the Technical Program Committee of **9th International Workshop on Mobile Applications 2023 (MobiApps 2023)** held in Marrakesh, Morocco during August 14 to August 16, 2023.

Member of the Technical Program Committee of **4th International Conference on Soft Computing, Artificial Intelligence and Machine Learning (SAIM 2023)** held in Vancouver, Canada during May 27 to May 28, 2023.

Member of the Technical Program Committee of **2023 IEEE 15th International Conference on Computational Intelligence and Communication Networks (CICN)** held in Bangkok, Thailand during December 22 to December 23, 2023.

Member of the Technical Program Committee of **2nd International Conference on Computer Science and Information Technology (COMSCI 2023)** held during July 15 to July 16, 2023.

Member of the Technical Program Committee of **International Conference on Speech and NLP (SPNLP 2023)** held during May 13 to May 14, 2023.

Member of the Technical Program Committee of **9th International Conference on Cryptography and Information Security (CRIS 2023)** held in Zurich, Switzerland during May 20 to May 21, 2023.

Member of the Technical Program Committee of **International Conference on Security & Applications (SECURA 2023)** held during August 12 to August 13, 2023.

Member of the Technical Program Committee of **International Conference on IOT, Cloud and Big Data (IOTCB 2023)** held during March 11 to March 12, 2023.

Member of the Technical Program Committee of **9th International Conference on Image and Signal Processing (ISPR 2023)** held in Copenhagen, Denmark during April 29 to April 30, 2023.

Member of the Technical Program Committee of **Artificial Intelligence and Natural Language Conference (AINL 2023)** held during April 20 to April 22, 2023.

Member of the Technical Program Committee of **International Conference on Soft Computing, Data mining and Data Science (SCDD 2023)** held during May 13 to May 14, 2023.

Member of the Technical Program Committee of **7th International Conference on Applied Mathematics and Sciences (AMA 2023)** held during May 13 to May 14, 2023.

Member of the Technical Program Committee of **International Conference on Computer Science and Software Engineering (CSSE 2023)** held during August 12 to August 13, 2023.

Member of the Technical Program Committee of **International Conference on IOT, Cloud and Big Data (IOTCB 2023)** held during March 11 to March 12, 2023.

Member of the Technical Program Committee of **7th International Conference on Electrical & Computer Engineering (E & C 2023)** held during July 15 to July 16, 2023.

Member of the Technical Program Committee of **International Conference on Computer Science and Software Engineering (CSSE 2023)** held during August 12 to August 13, 2023.

Member of the Technical Program Committee of **7th International Conference on Biomedical Engineering and Science (BES2023)** held in Copenhagen, Denmark during April 29 to April 30, 2023.

Member of the Technical Program Committee of **4th International Conference on Networks, Blockchain and Internet of Things (NB IoT 2023)** held in Copenhagen, Denmark during April 29 to April 30, 2023.

Member of the Technical Program Committee of **2nd International Conference on IOT, Cloud and Big Data (IOTCB 2023)** held during July 15 to July 16, 2023.

Member of the Technical Program Committee of **9th International Conference on Control, Modeling, and Computing (CMC 2023)** held in Sydney, Australia during March 25 to March 26, 2023.

Member of the Technical Program Committee of **Arab ICT Conference 2023** held in the Kingdom of Bahrain during December 6 to December 7, 2023.

Session Chair in **Fifth International Conference on Computational Intelligence in Communications and Business Analytics (CICBA – 2023)** organized by Kalyani Government Engineering College, West Bengal, India, in hybrid mode during January 27 to January 28, 2023.

Technical Chair of the **International Conference on Innovating Technologies & Intelligent Systems (ICITIS-2023)** held during February 24 to February 25, 2023.

Member of the International Advisor Committee of **14th International Conference on Computer Networks & Communications (CoNeCo 2023)** held in Zurich, Switzerland during May 21 to May 22, 2023.

Member of the International Advisor Committee of **International Conference on Blockchain and Machine Intelligence Applications (ICBMIA 2023)** to be organized by Eminent College of Management and Technology (ECMT) during August 16 to August 17, 2023.

Member of the Technical Program Committee of **11th International Conference on Foundations of Computer Science & Technology (FCST 2023)** held in Vancouver, Canada during May 27 to May 28, 2023.

Member of the Technical Program Committee of **3rd International Conference on Novel & Intelligent Digital Systems (NiDS2023)** held in Athens, Greece during September 28 to September

29, 2023.

Member of the Technical Program Committee of **International Conference on NLP & AI (NLPAI 2023)** held during March 11 to March 12, 2023.

Member of the Technical Program Committee of **9th International Conference on Networks & Communications (NCOM 2023)** held in Vienna, Austria during March 18 to March 19, 2023.

Member of the Technical Program Committee of **4th International Conference on Cloud and Internet of Things (ICCIoT 2023)** held in Dubai, UAE during February 18 to February 19, 2023.

Member of the Technical Program Committee of **14th International Conference on Advanced Natural Language Processing (AdNLP 2023)** held in Sydney, Australia during March 25 to March 26, 2023.

Member of the Technical Program Committee of **9th International Conference on Networks & Communications (NCOM 2023)** held in Vienna, Austria during March 18 to March 19, 2023.

Member of the Technical Program Committee of **15th International Conference on Wireless & Mobile Network (WiMo 2023)** held in London, United Kingdom during July 29 to July 30, 2023.

Member of the Technical Program Committee of **2nd International Conference on Education and Technology (EDUTECH 2023)** held during January 21 to January 22, 2023.

Member of the Technical Program Committee of **9th International Conference on Signal and Image Processing (SIPRO 2023)** held in Vienna, Austria during March 18 to March 19, 2023.

Member of the Technical Program Committee of **10th International Conference on Artificial Intelligence and Applications (AIAP 2023)** held in Dubai, UAE during February 18 to February 19, 2023.

Member of the Technical Program Committee of **9th International Conference on Information Technology Convergence and Services (ITCSS 2023)** held in Copenhagen, Denmark during January 28 to January 29, 2023.

Member of the Technical Program Committee of **3rd International conference on Computer, Big Data and Artificial Intelligence (ICCBDAI 2022)** held during December 16 to December 18, 2022.

Member of the Technical Program Committee of **3rd International Conference on Data Science and Cloud Computing (DSCC 2022)** held in Dubai, UAE during December 17 to December 18, 2022.

Member of the Technical Program Committee of **8th International Conference on Data Mining & Knowledge Management (DaKM 2023)** held in Toronto, Canada during July 22 to July 23, 2023.

Member of the Technical Program Committee of **12th International Conference on Digital Image Processing and Vision (ICDIPV 2023)** held in London, United Kingdom during July 29 to July 30, 2023.

Member of the Technical Program Committee of **9th International conference on Advanced**

**Computing (ADCOM 2023)** held in Copenhagen, Denmark during January 28 to January 29, 2023.

Member of the Technical Program Committee of **4th International Conference on Blockchain and Internet of Things (BIoT 2023)** held in Vienna, Austria during March 18 to March 19, 2023.

Member of the Technical Program Committee of **12th International Conference on Cryptography and Information Security (CRYPIS 2023)** held in London, United Kingdom during July 29 to July 30, 2023.

Member of the Technical Program Committee of **12th International Conference on Digital Image Processing and Vision (ICDIPV 2023)** held in London, United Kingdom during July 29 to July 30, 2023.

Member of the Technical Program Committee of **4th International Conference on Big Data (CBDA 2023)** held in Zurich, Switzerland during May 20 to May 21, 2023.

Member of the Technical Program Committee of **13th International Conference on Internet Engineering & Web Services (InWeS 2022)** held in Sydney, Australia during December 22 to December 23, 2022.

Member of the Technical Program Committee of **12th International Conference on Cryptography and Information Security (CRYPIS 2023)** held in London, United Kingdom during July 29 to July 30, 2023.

Member of the Technical Program Committee of **10th International Conference on Signal and Image Processing (SIGL 2023)** held in Zurich, Switzerland during May 20 to May 21, 2023.

Member of the Technical Program Committee of **5th International Conference on Soft Computing, Control and Mathematics (SCM 2022)** held in Dubai, UAE during December 17 to December 18, 2022.

Member of the Technical Program Committee of **9th International Conference on Artificial Intelligence and Applications (AIFU 2023)** held in Vienna, Austria during March 18 to March 19, 2023.

Member of the Technical Program Committee of **3rd International Conference on IOT, Big Data and Security (IOTBS 2023)** held in Vancouver, Canada during February 25 to February 26, 2023.

Member of the Technical Program Committee of **13th International Conference on Internet Engineering & Web Services (InWeS 2022)** held in Sydney, Australia during December 22 to December 23, 2022.

Member of the Technical Program Committee of **2023 IEEE 12th International Conference on Communication Systems and Network Technologies (CSNT)** held at Bhopal, India during April 08 to April 09, 2023.

Member of the Technical Program Committee of **6th International Conference on Networks and Security (NSEC 2022)** held in Sydney, Australia during December 22 to December 23, 2022.

Member of the Technical Program Committee of **4th International Conference on Cloud and Internet of Things (ICCIoT 2023)** held in Dubai, UAE during February 18 to February 19,

2023.

Member of the Technical Program Committee of **9th International Conference on Signal Processing (CSIP 2022)** held in Sydney, Australia during December 22 to December 23, 2022.

Member of the Technical Program Committee of **6th International Conference on Biomedical Engineering and Science (BIENS 2022)** held in Sydney, Australia during December 22 to December 23, 2022.

Member of the Technical Program Committee of **8th International Conference On Networks, Mobile Communications And Telematics(NMOCT 2022)** held in Vienna, Austria during October 29 to October 30, 2022.

Member of the Technical Program Committee of **14th International Conference on Web services & Semantic Technology (WeST 2022)** held in Sydney, Australia during December 23 to December 24, 2022.

Member of the Technical Program Committee of **2022 International Conference on Data Analytics for Business and Industry (ICDABI)** held in the University of Bahrain during October 25 to October 26, 2022.

Member of the Technical Program Committee of **4th International Conference on Applied Control, Electrical and Electronics Engineering (CEEE 2022)** held in Dubai, UAE during December 17 to December 18, 2022.

Program Chair of **International Conference on Data Science and Communication** held at Siliguri Institute of Technology, Siliguri, India during March 23 to March 24, 2023.

Member of the Technical Program Committee of **3rd International Conference on NLP & Artificial Intelligence Techniques (NLAI 2022)** held in London, United Kingdom during November 26 to November 27, 2022.

Member of the Technical Program Committee of **8th International Conference on Artificial Intelligence and Applications (AI 2022)** held in Vienna, Austria during October 29 to October 30, 2022.

Member of the Technical Program Committee of **International Conference on Signal Processing and Vision (SIGV 2022)** held in Dubai, UAE during December 17 to December 18, 2022.

Member of the Technical Program Committee of **International Conference on Computer Science and Machine Learning (CSML 2023)** held in Zurich, Switzerland during January 02 to January 03, 2023.

Member of the Technical Program Committee of **2nd International Conference on Cryptography and Blockchain (CRBL 2022)** held in Sydney, Australia during October 22 to October 23, 2022.

Member of the Technical Program Committee of **3rd International Conference on NLP & Artificial Intelligence Techniques (NLAI 2022)** held in London, United Kingdom during November 26 to November 27, 2022.

Member of the Technical Program Committee of **12th International Conference on Peer-to-Peer Networks and Trust Management (P2PTM 2022)** held in Sydney, Australia during

December 23 to December 24, 2022.

Member of the International Advisory Committee of **International Conference in Communication, Electronic and Information Technology (NICE-IT)** held in New Delhi, India during February 10 to February 11, 2023.

Member of the Technical Program Committee of **9th International Conference on Foundations of Computer Science & Technology (CST 2022)** held in Chennai, India during November 12 to November 13, 2022.

Member of the Technical Program Committee of **9th International Conference on Signal Processing (CSIP 2022)** held in Sydney, Australia during December 22 to December 23, 2022.

Member of the Advisory Committee of **7th International Conference on Intelligent Computing and Control Systems (ICICCS 2023)** held at Vaigai College of Engineering, Madurai, India during May 17 to May 19, 2023.

Member of the Technical Program Committee of **3rd International Conference on Data Science and Cloud Computing (DSCC 2022)** held in Dubai, UAE during December 17 to December 18, 2022.

Member of the Technical Program Committee of **11th International Conference on Natural Language Processing (NLP 2022)** held in Copenhagen, Denmark during September 17 to September 18, 2022.

Member of the Technical Program Committee of **9th International Conference on Artificial Intelligence & Applications (ARIA 2022)** held in Copenhagen, Denmark during September 17 to September 18, 2022.

Member of the Technical Program Committee of **11th International Conference on Signal & Image Processing (SIP 2022)** held in Sydney, Australia during October 22 to October 23, 2022.

Member of the Technical Program Committee of **3rd International Conference on Pervasive Computing and Social Networking (ICPCSN 2023)** held in Salem, India during March 9 to March 10, 2023.

Member of the Technical Program Committee of **The 8th International Workshop on Mobile Applications 2022 (MobiApps 2022)** held in Rome, Italy during August 22 to August 24, 2022.

Member of the Technical Program Committee of **14th International Conference on Wireless & Mobile Network (WiMo 2022)** held in Toronto, Canada during July 23 to July 24, 2022.

Member of the Technical Program Committee of **2nd International Conference on Big Data, IOT & NLP (BINLP 2022)** held in Vienna, Austria during October 29 to October 30, 2022.

Member of the Technical Program Committee of **6th International Conference on Electrical & Computer Engineering (E&C 2022)** held virtually during August 27 to August 28, 2022.

Member of the Technical Program Committee of **9th International Conference on Wireless and Mobile Network (WiMNET 2022)** held in Sydney, Australia during October 22 to October 23, 2022.

Member of the Technical Program Committee of **3rd International Conference on Natural Language Processing and Applications (NLPA 2022)** held in Chennai, India during August

20 to August 21, 2022.

Member of the Technical Program Committee of **International Conference on Computer Science and Information Technology (COMSCI 2022)** held in virtual mode during August 27 to August 28, 2022.

Member of the Technical Program Committee of **Novel & Intelligent Digital Systems Conference (NIDS2022)** held in Athens, Greece during September 29 to September 30, 2022.

Member of the Technical Program Committee of **2022 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT 2022)** technically sponsored by IEEE Bahrain Section and The Institution of Engineering and Technology (IET, UK) held in University of Bahrain, Bahrain in collaboration with Edge Hill University, King Abdulaziz University, Sultan Qaboos University, and Dubai University during November 20 to November 21, 2022.

Member of the Technical Program Committee of **2022 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems (ICETISIS)** held in Applied Science University, Bahrain during June 22 to June 23, 2022.

Member of the Technical Program Committee of **2022 14th International Conference on Computational Intelligence and Communication Networks (CICN)** held in Prince Mohammad Bin Fahd University, Kingdom of Saudi Arabia during 02 December to 04 December, 2022.

Member of the Technical Program Committee of **6th International on Bioscience & Engineering (BIOENG 2022)** held in Sydney, Australia during June 18 to June 19, 2022.

Member of the Technical Program Committee of **3rd International Conference on Big Data & IOT (BDIoT 2022)** held in Toronto, Canada during September 24 to September 25, 2022.

Member of the Technical Program Committee of **11th International Conference on Digital Image Processing and Vision (ICDIPV 2022)** held in Toronto, Canada during July 23 to July 24, 2022.

Member of the Technical Program Committee of **10th International Conference on Signal, Image Processing and Pattern Recognition (SIPP 2022)** held in London, United Kingdom during July 30 to July 31, 2022.

Member of the Technical Program Committee of **8th International Conference on Artificial Intelligence and Soft Computing (AIS 2022)** held in Chennai, India during August 20 to August 21, 2022.

Member of the Technical Program Committee of **9th International Conference on Signal and Image Processing (SIGL 2022)** held in Vancouver, Canada during May 28 to May 29, 2022.

Member of the Technical Program Committee of **IEEE World Congress on Computational Intelligence (WCCI) 2022** held at Padova, Italy during July 18 to July 23, 2022.

Member of the Technical Program Committee of **9th International Conference on Mathematics and Computing (ICMC 2023)** held at BITS Pilani K. K. Birla Goa Campus, India during January 06 to January 08, 2023.

Member of the Technical Program Committee of **International Conference on Artificial Intelligence Science and Applications (CAISA)** held in Galala, Egypt during August 03 to August

05, 2022.

Member of the Technical Program Committee of **8th International Conference on Data Mining and Applications (DMAP 2022)** held in Sydney, Australia during June 18 to June 19, 2022.

Member of the Technical Program Committee of **The 10th Conference on Artificial Intelligence and Natural Language (AINL 2022)** held in ITMO University, Russia during April 14 to April 15, 2022.

Member of the Technical Program Committee of **3rd International Conference on Cloud Computing, Security and Blockchain (CLSB 2022)** held in Toronto, Canada during September 24 to September 25, 2022.

Member of the Technical Program Committee of **8th International Conference on Signal, Image Processing and Embedded Systems (SIGEM 2022)** held in Zurich, Switzerland during November 19 to November 20, 2022.

Member of the Technical Program Committee of **3rd International Conference on IoT, Blockchain & Cloud Computing (IBCOM 2022)** held in London, United Kingdom during November 26 to November 27, 2022.

Member of the Technical Program Committee of **2022 8th International Conference on Signal Processing and Pattern Recognition (SIPR 2022)** held in Copenhagen, Denmark during September 17 to September 18, 2022.

Member of the Technical Program Committee of **2022 3rd International Conference on Decision Aid Sciences and Applications (DASA'22)** held in Mae Fah Luang University, Thailand during March 23 to March 25, 2022.

Member of the Technical Program Committee of **3rd International Conference on Data Mining & Machine Learning (DMML 2022)** held in Copenhagen, Denmark during April 23 to April 24, 2022.

Member of the Technical Program Committee of **5th International Conference on Computational Intelligence and Networks (CINE-2022)** held at KIIT-DU, India.

Member of the Technical Program Committee of **2022 2nd International Conference on Information Management, Innovation Management and Industrial Engineering (ICIII 2022)** held in Bangkok, Thailand during September 16 to September 18, 2022.

Member of the Technical Program Committee of **3rd International Conference on Advanced Natural Language Processing (AdNLP 2022)** held in Vienna, Austria during March 19 to March 20, 2022.

Member of the Technical Program Committee of **8th International Conference on Artificial Intelligence and Applications (AIFU 2022)** held in Sydney, Australia during March 26 to March 27, 2022.

Member of the Technical Program Committee of **9th International Conference on Signal and Image Processing (Signal 2022)** held in Vienna, Austria during March 19 to March 20, 2022.

Member of the Technical Program Committee of **2nd International Conference on Computing and Information Technology (COIT 2022)** held in Dubai, UAE during February 19 to February 20, 2022.

Member of the Technical Program Committee of **2nd International Conference on IOT, Big Data and Security (IOTBS 2022)** held in Dubai, UAE during February 19 to February 20, 2022.

Member of the Technical Program Committee of **8th International Conference on Artificial Intelligence and Applications (AIFU 2022)** held in Sydney, Australia during March 26 to March 27, 2022.

Member of the Technical Program Committee of **International Conference on Computing and Information Technology Trends (CCITT 2022)** held in March 12 to March 13, 2022.

Member of the Technical Program Committee of **9th International Conference on Bioinformatics and Bioscience (ICBB 2022)** held in Vancouver, Canada during February 26 to February 27, 2022.

Member of the Technical Program Committee of **11th International Conference on Information Theory (IT 2022)** held in Vancouver, Canada during February 26 to February 27, 2022.

Member of the Technical Program Committee of **6th International Conference on Biomedical Engineering and Science (BES 2022)** held in Dubai, UAE during February 19 to February 20, 2022.

Member of the Technical Program Committee of **8th International Conference on Data Mining and Applications (DMAP 2022)** held in Sydney, Australia during June 18 to June 19, 2022.

Member of the Technical Program Committee of **3rd International Conference on Cloud, Big Data and Web Services (CBW 2022)** held in Vienna, Austria during March 19 to March 20, 2022.

Member of the Technical Program Committee of **8th International Conference on Signal and Image Processing (SIPRO 2022)** held in Sydney, Australia during March 26 to March 27, 2022.

Member of the Technical Program Committee of **3rd International Conference on Signal Processing and Machine Learning (SIGML 2022)** held in Vancouver, Canada during February 26 to February 27, 2022.

Member of the Technical Program Committee of **International Conference on Advances in Computing & Information Technologies (CACIT 2021)** held in Chennai, India during December 11 to December 12, 2022.

Member of the Technical Program Committee of **3rd International conference on Big Data, Machine learning and Applications (BIGML 2022)** held in London, United Kingdom during July 30 to July 31, 2022.

Member of the Technical Program Committee of **8th International Conference of Advances in Materials Science and Engineering (MAT 2022)** held in Sydney, Australia during March 26 to March 27, 2022.

Member of the Technical Program Committee of **8th International Conference on Bioscience & Engineering (BIOE 2022)** held in Sydney, Australia during March 26 to March 27, 2022.

Member of the Technical Program Committee of **12th International Conference on Ubiquitous Computing Conference (UBIC 2021)** to be at Zurich, Switzerland during November 20 to November 21, 2021.

Member of the Technical Program Committee of **11th International Conference on Communication Systems and Network Technologies 2022 (CSNT 2022)** held in SGSITS, Indore during April 23 to April 24, 2022.

Member of the Advisory Committee of **2022 Second International Conference on Computer Science, Engineering and Applications (ICCSEA)** held in the Department of Computer Science & Engineering, GIET University, Gunupur, India on 8-September, 2022.

Member of the Technical Program Committee of **3rd International Conference on Machine Learning, IOT and Blockchain (MLIOB 2022)** held in Copenhagen, Denmark during January 29 to January 30, 2022.

Member of the Technical Program Committee of **6th International Conference on Artificial Intelligence, Soft Computing And Applications (AISCA 2022)** held in Copenhagen, Denmark during January 29 to January 30, 2022.

Member of the Technical Program Committee of **3rd International Conference on Cloud and Internet of Things (ICCIoT 2022)** held in Vancouver, Canada during February 26 to February 27, 2022.

Member of the Technical Program Committee of **3rd International Conference on NLP & Information Retrieval (NLPI 2022)** held in Copenhagen, Denmark during April 23 to April 24, 2022.

Member of the Technical Program Committee of **9th International Conference on Data Mining and Database (DMDB 2022)** held in Vancouver, Canada during February 26 to February 27, 2022.

Member of the Technical Program Committee of **The 2021 International Conference on Decision Aid Sciences and Applications (DASA'21)** to be organized by University of Bahrain during December 07 to December 08, 2021.

Member of the Technical Program Committee of **8th International Conference on Signal Processing (CSIP 2021)** held in Chennai, India during December 11 to December 12, 2021.

Member of the Technical Program Committee of **7th International Conference on Data Mining & Knowledge Management (DaKM 2022)** held in London, United Kingdom during July 30 to July 31, 2022.

Member of the International Advisory Committee of **International Conference on Data Science and Information System (ICDSIS - 2022)** held in Malnad College of Engineering, Hassan, India.

Member of the Technical Program Committee of **2021 IEEE 18th India Council International Conference (INDICON)** held in Guwahati, India during December 19 to December 21, 2021.

Member of the Technical Program Committee of **9th International Conference on Signal and Image Processing (SIGL 2022)** held in Vancouver, Canada during May 28 to May 29, 2022.

Member of the Technical Program Committee of **2nd International Conference on VLSI & Embedded Systems (VLSIE 2021)** held in Sydney, Australia during December 21 to December 22, 2021.

Member of the Technical Program Committee of **11th International Conference on Embedded Systems and Applications (EMSA 2022)** held in Sydney, Australia during March 26 to March

27,2022.

Member of the Technical Program Committee of **8th International Conference on Information Technology Convergence and Services (ITCSS 2022)** held in Zurich, Switzerland during 22 January to January 23, 2022.

Member of the Technical Program Committee of **9th International Conference on Artificial Intelligence and Applications (AIAPP 2022)** held in Vancouver, Canada during 28 May to May 29, 2022.

Member of the Technical Program Committee of **12th International Conference on Communications Security & Information Assurance (CSIA 2021)** held in Zurich, Switzerland during November 20 to November 21, 2021.

Member of the Technical Program Committee of **International Conference on Big Data, IoT and Machine Learning (BIOM 2021)** held in Vienna, Austria during October 29 to October 30, 2021.

Member of the Technical Program Committee of **4th International Conference on Intelligent Computing, Information and Control Systems (ICICCS 2022)** held at Care College of Engineering, Tamil Nadu, India during June 29 to June 30, 2022.

Member of the Technical Program Committee of **2nd International Conference on Big Data & IOT (BDIoT 2021)** held in Copenhagen, Denmark during September 18 to September 19, 2021.

Member of the Technical Program Committee of **International Conference on Data Science and Applications (DSA 2021)** held in Dubai, UAE during November 27 to November 28, 2021.

Member of the Technical Program Committee of **2021 International Conference on Data Analytics for Business and Industry (DATA'21)** held at the University of Bahrain, Bahrain during October 25 to October 26, 2021.

Member of the International Advisory Committee of **2nd International Conference on Science, Engineering and Management (ICSEM 2021)** held in Colombo, Sri Lanka during August 26 to August 27, 2021.

Member of the Technical Program Committee of **International Conference on NLP & Data Mining (NLDM 2021)** held in Vienna, Austria during October 29 to October 30, 2021.

Member of the Technical Program Committee of **The 2021 International Symposium on Artificial Intelligence for Medical Applications (AI4MED 2021)** held in Newcastle upon Tyne, UK during August 19 to August 23, 2021.

Member of the National Advisory Committee of **International Conference on Artificial Intelligence and High-Performance computing Cloud Computing (AIHPC 2022)** held at Vardhaman College of Engineering, Hyderabad, India during January 07 to January 08, 2022.

Member of the Technical Program Committee of **2nd International Conference on Machine Learning Techniques and NLP (MLNLP 2021)** held in Copenhagen, Denmark during September 18 to September 19, 2021.

Member of the Technical Program Committee of **13th International Conference on Web services & Semantic Technology (WeST 2021)** held in Dubai, UAE during November 27 to November 28, 2021.

Member of the Technical Program Committee of **2nd International Conference on Internet of Things & Embedded Systems (IOTE 2021)** held in Dubai, UAE during November 27 to November 28, 2021.

Member of the Technical Program Committee of **13th International Conference on Grid Computing (GridCom 2021)** held in Zurich, Switzerland during November 20 to November 21, 2021.

Member of the Technical Program Committee of **2nd International Conference on Big Data & Health Informatics (BDHI 2021)** held in Chennai, India during August 21 to August 22, 2021.

Member of the Technical Program Committee of **7th International Conference on Signal and Image Processing (SIGPRO 2021)** held in Copenhagen, Denmark during September 18 to September 19, 2021.

Member of the Advisory Committee of **6th International Conference on Intelligent Computing and Control Systems (ICICCS 2022)** held at Vaigai College of Engineering, Madurai, India during May 25 to May 27, 2022.

Member of the Technical Program Committee of **International Conference on Network Security and Blockchain Technology (ICNSBT 2021)** to be organized by Computer Society of India-Kolkata Chapter and held during December 02 to December 04, 2021 at Kolkata, India.

Member of the **Board of Studies (BoS)** in UG and PG courses of Ramakrishna Mission Vidya-mandira, Belur Math, Howrah.

Member of the Technical Program Committee of **8th International Conference on Mathematics and Computing (ICMC 2022)** held during January 06 to January 08, 2022 at Vellore Institute of Technology, Tamil Nadu, India.

Member of the International Advisory Committee of **International Conference on Computational Intelligence, Data Science and Cloud Computing (IEM-ICDC 2021)** held during December 22 to December 24, 2021 at Institute of Engineering and Management, Kolkata, India.

Member of the Technical Program Committee of **2nd International Conference on Cloud, Big Data and Web Services (CBW 2021)** held during July 24 to July 25, 2021 in London, United Kingdom.

Member of the Technical Program Committee of **2021 Fourth International Conference on Computational Intelligence in Communications, and Business Analytics (CICBA T21)** held during December 2 to December 3, 2021 at Assam University Silchar, India.

Member of the Technical Program Committee of **7th International Conference on Computer Science, Engineering and Applications (CSEA 2021)** held in London, United Kingdom during November 27 to November 28, 2021.

Member of the Technical Program Committee of **7th International Conference on Information Technology Converge Services (ITCON 2021)** held in Sydney, Australia during December 23 to December 24, 2021.

Member of the Technical Program Committee of **2021 International Conference on Innovation and Intelligence for Informatics, Computing and Technologies (3ICT 2021)** held in the University of Bahrain, Bahrain during September 29 to September 30, 2021.

Publication Chair of **International Conference on Computer, Electrical and Electronics Engineering (ICCEEE 2021)** held in Pune, India during October 07 to October 09, 2021.

Member of the Technical Program Committee of **2nd International Conference on Big Data, IOT and Blockchain (BIBC 2021)** held in Sydney, Australia during October 23 to October 24, 2021.

Member of the Technical Program Committee of **7th International Conference on Signal Processing and Pattern Recognition (SIPR 2021)** held in Sydney, Australia during October 23 to October 24, 2021.

Member of the Technical Program Committee of **The 2nd International Symposium on Engineering and Technology 2021 (ISETech 2021)** held at Universiti Malaysia Perlis, Malaysia on October 05, 2021.

Member of the Technical Program Committee of **2nd International Conference on Machine Learning, IOT and Blockchain (MLIOB 2021)** held at Chennai, India during August 27 to August 28, 2021.

Member of the Technical Program Committee of **2nd International Conference on Big Data, IOT and Blockchain (BIBC 2021)** held at Sydney, Australia during October 23 to October 24, 2021.

Session Chair of **Technical Session 6: Statistics, Modelling, Simulation And Management** on 20.02.2021 in the **International Conference on Computational Intelligence & Computing (ICCIC - 2020NE)** held at Jhansi, India during February 19 to February 20, 2021.

Member of the International Advisory Committee of **3rd International Conference on the theme of Applications of AI and Machine learning (ICAML-2021)** held during September 03 to September 04, 2021 in Punjabi University, India.

Member of the Technical Program Committee of **2nd International Conference on IoT, Blockchain & Cloud Computing (IBCOM 2021)** held during November 20 to November 21, 2021 in Zurich, Switzerland.

Member of the Technical Program Committee of **7th International Conference on Signal Processing and Pattern Recognition (SIPR 2021)** held during October 23 to October 24, 2021 in Sydney, Australia.

Member of the Technical Program Committee of **8th International Conference on Signal, Image Processing and Multimedia (SPM 2021)** held during September 25 to September 26, 2021 in Toronto, Canada.

Member of the Technical Program Committee of **1st International Conference on Novelties in Intelligent Digital Systems (NiDS)** held during September 30 to October 01, 2021 in Athens, Greece.

Member of the Technical Program Committee of **2021 IEEE Congress on Evolutionary Computation (IEEE CEC 2021)** held during June 28 to July 01, 2021 in Krakow, Poland.

Member of the Technical Program Committee of **9th International Conference on Signal, Image Processing and Pattern Recognition (SIPP 2021)** held during May 29 to May 30, 2021 in Vancouver, Canada.

Member of the Technical Program Committee of **2021 International Conference on Frontiers of Artificial Intelligence and Statistics (CFAIS 2021)** held during July 23 to July 25, 2021 in Dalian, China.

Member of the Organizing Committee of **2021 International Conference on Signal Image Processing and Communication (ICSIPC 2021)** to be organized by AEIC Academic Exchange Information Center, China during April 16 to April 18, 2021.

Member of the Technical Program Committee of **7th International Conference on Mathematics and Computing (ICMC 2021)** held at Indian Institute of Engineering Science and Technology, Shibpur, Kolkata, India during March 2 to March 5, 2021.

Member of the Technical Program Committee of **7th International Conference on Artificial Intelligence (ARIN 2021)** held in Zurich, Switzerland during May 22 to May 23, 2021.

Member of the Technical Program Committee of **7th International Conference on Computer Science, Information Technology and Applications (CSITA 2021)** held in Zurich, Switzerland during May 22 to May 23, 2021.

Member of the Technical Program Committee of **2nd International Conference on Signal Processing, VLSI Design & Communication Systems (SVC-2021)** held in Vienna, Austria during March 20 to March 21, 2021.

Member of the Technical Program Committee of **8th International Conference on Signal and Image Processing (Signal 2021)** held in London, UK during July 24 to July 25, 2021.

Member of the Technical Program Committee of **7th International Conference on Signal and Image Processing (SIPRO 2021)** held in Copenhagen, Denmark during June 19 to June 20, 2021.

Member of the Technical Program Committee of **2nd International Conference on Applications of Networks, Sensors and Autonomous Systems Analytics (ICANSASA 2020)** held at JIS Engineering College, Kalyani, India during December 11 to December 12, 2020.

Member of the Technical Program Committee of **International Conference on IoT, Blockchain & Cloud Computing (IBCOM 2020)** held in Sydney, Australia during December 19 to December 20, 2020.

Member of the Technical Program Committee of **2nd International Conference on Cloud, Big Data and Web Services (CBW 2021)** held in London, United Kingdom during July 24 to July 25, 2021.

Member of the Technical Program Committee of **2nd International conference on Big Data, Machine learning and Applications (BIGML 2021)** held in Vancouver, Canada during May 29 to May 30, 2021.

Member of the International Advisory Committee of **The Second International Conference on Agriculture and IoT/ICT/IT (ICAIT2021)** held in Xi'an, China during April 23 to April 25, 2021.

Member of the International Advisory Board of **International Conference on Emerging Trends in Industry 4.0 (ETI 4.0)** held in O. P. Jindal University, India during May 19 to May 21, 2021.

Member of the Technical Program Committee of **10th International Conference on Digital**

**Image Processing and Vision (ICDIPV 2021)** held in Sydney, Australia during June 26 to June 27, 2021.

Member of the Technical Program Committee of **The 2nd International Sustainability and Resilience Conference 2020** held in The University of Bahrain, Bahrain during November 11 to November 12, 2020.

Member of the Technical Program Committee of **9th International Conference on Signal, Image Processing and Pattern Recognition (SIPP 2021)** held in Vancouver, Canada during May 29 to May 30, 2021.

Member of the Technical Program Committee of **The Sixth International Conference on e-Learning (ECONF20)** held in The University of Bahrain, Bahrain on November 30, 2020.

Member of the Technical Program Committee of **2nd International Conference on Cloud and Internet of Things (ICCIoT 2021)** held in Zurich, Switzerland during January 23 to January 24, 2021.

Member of the Technical Program Committee of **10th International Conference on Communication Systems and Network Technologies 2021 (CSNT 2021)** held in Bhopal, India during April 24 to April 25, 2021.

Member of the Technical Program Committee of **7th International Conference on Advances in Computer Science and Information Technology (ACSTY-2021)** held in Vienna, Austria during March 20 to March 21, 2021.

Member of the Technical Program Committee of **International Conference on Data Analytics for Business and Industry (DATA'20)** held in Kingdom of Bahrain during October 26 to October 27 October, 2020.

Member of the Technical Program Committee of **International Conference on Big Data, IOT and Blockchain (BIBC 2020)** held at Dubai, UAE during October 24 to October 25, 2020.

Member of the Technical Program Committee of **8th International Conference on Signal and Image Processing (SIGL 2021)** held in Sydney, Australia during March 27 to March 28, 2021.

Member of the Technical Program Committee of **2020 International Conference on Innovation and intelligence for Informatics, Computing, and Technologies (3ICT 2020)** to be organized by University of Bahrain during December 20 to December 09, 2020.

Member of the National Committee of **International Conference on Smart IOT Applications (ICSIA 2021)** to be organized By : Pallavi Engineering College, Hyderabad, Telangana during February 2021.

Member of the Technical Program Committee of **The 2020 International Conference on Decision Aid Sciences and Applications (DASA'20)** to be organized by University of Bahrain during November 08 to November 09, 2020.

Member of the International Advisory Board of **International Conference on Innovative Research in Renewable Energy Technologies (IRRET-2021)** held at IMPS College of Engineering and Technology, India during February 25 to February 26, 2021.

Member of the Technical Program Committee of **International Conference on Internet of Things & Embedded Systems (IoTE 2020)** held at London, United Kingdom during November

28 to November 29, 2020.

Member of the Technical Program Committee of **International Conference on Edge Computing and Cloud Technologies (ICECT 2021)** held at Annapoorana Engineering College, Salem, India during April 29 to April 30, 2021.

Member of the Advisory Committee of **AICTE sponsored International E-conference on Data Analytics, Intelligent Systems and Information Security (ICDIIS '20)** held at Dr. Mahalingam College of Engg. & Tech., India during December 11 to December 12, 2020.

Member of the International Program Committee of **International Webinar Series on Artificial Intelligence and Machine Learning (AIML 2020)** held at Global Institute of Science and Technology, India during September 21 to September 26, 2020.

Member of the Technical Program Committee of **International Online Conference on Engineering Response to COVID-19 (IOCER COVID-19)** held at JIS College of Engineering, Kalyani, India during October 08 to October 09, 2020.

Member of the Technical Program Committee of **3rd International Conference on Inventive Research in Computing Applications (ICIRCA)** held at Coimbatore during September 02 to September 04, 2021.

Member of the International Advisory Committee of **International Conference on Research and Applications in Artificial Intelligence (RAAI)** held at Kolkata, India during December 19 to December 20, 2020.

Member of the Technical Program Committee of **2nd International Conference on Machine Learning & Applications (CMLA 2020)** held at Copenhagen, Denmark during September 26 to September 27, 2020.

Member of the Technical Program Committee of **6th International Conference on Signal, Image Processing and Embedded Systems (SIGEM 2020)** held at Chennai, India during December 26 to December 27, 2020.

Member of the Technical Program Committee of **12th International Conference on Applications of Graph Theory in Wireless Ad hoc Networks and Sensor Networks (GRAPH-HOC 2020)** held at Copenhagen, Denmark during September 26 to September 27, 2020.

Member of the Advisory Committee of **IEM-ICDC 2020: International Conference on Computational Intelligence, Data Science and Cloud Computing** to be organized by Department of Information Technology, Institute of Engineering & Management (IEM), Kolkata, India during September 25 to September 27, 2020.

Member of the Technical Program Committee of the Special Session on Human-Computer, Human-Robot and User Experience Technologies in **24th World Multi-Conference on Systemics, Cybernetics and Informatics (WMSCI 2020) Conference** held at Orlando, Florida, USA during September 13 to September 16, 2020.

Member of the International Advisory Committee of **International Conference On Intelligent Computing and Control Systems (ICCS 2021)** held at Vaigai College Engineering, Madurai, India during June 03 to June 05, 2021.

Member of the Technical Program Committee of **7th International Conference on Signal Processing (CSIP 2020)** held in Dubai, UAE during December 12 to December 13, 2020.

Member of the Technical Program Committee of **12th International Conference on Computational Intelligence and Communication Networks (CICN 2020)** held in Nainital, India during September 25 to September 26, 2020.

Member of the Technical Program Committee of **6th International Conference on Signal and Image Processing (SIPRO 2020)** held in London, UK during July 25 to July 26, 2020.

Member of the Technical Program Committee of **International Conference on Computational Intelligence in Communications and Business Analytics (CICBA-2021)** held in Visva-Bharati University, Santiniketan, India during January 7 to January 9, 2021.

Member of the Technical Program Committee of **1st IEEE International Conference for Convergence in Engineering (ICCE 2020)** held in Netaji Subhash Engineering College, Kolkata, India during September 5 to September 6, 2020.

Member of the Technical Program Committee of **6th International Conference on Signal and Image Processing (SIPRO 2020)** held in London, United Kingdom during July 25 to July 26, 2020.

Member of the Technical Program Committee of **International Conference on Advanced Machine Learning (AMLA 2020)** held in Helsinki, Finland during June 13 to June 14, 2020.

Member of the Technical Program Committee of the workshop **INTEGRATED ARTIFICIAL INTELLIGENCE IN DATA SCIENCE” (IADS)** in the **25th International Conference on Pattern Recognition (ICPR2020)** held in Milan, Italy during September 13 to September 18, 2020.

Member of the Technical Program Committee of **7th International Conference on Signal, Image Processing and Multimedia (SPM 2020)** held in Copenhagen, Denmark during September 26 to September 27, 2020.

Member of the Technical Program Committee of **9th Artificial Intelligence and Natural Language Conference (AINL 2020)** held in Helsinki, Finland during October 7 to October 9, 2020.

Member of the Technical Program Committee of **IEEE World Congress on Computational Intelligence (WCCI) 2020** held at Glasgow (UK) during July 19 to July 24, 2020.

Member of the International Advisory Committee of **International Conference on Computing, Communication and Control (ICCCC-2k20)** held at Sri Sairam Engineering College, Chennai, Tamilnadu, India during February 28 to February 29, 2020.

Member of the International Advisory Committee of **International Conference on Advances in Medical Physics and Health Engineering (AMPHE 2020)** held at Adamas University, Kolkata, India during April 10 to April 11, 2020.

Member of the Organizing Committee of **Global Summit on Laser Optics and Mechatronics** held at Prague, Czech Republic during April 27 to April 28, 2020.

Member of the International Advisory Committee of **2nd International Conference on applications of AI and Machine Learning (ICAML 2020)** held at Punjabi University, India during May 21 to May 22 2020.

Member of the Technical Program Committee of **The 9th International Conference on Computational Aspects of Network Science (CAoNS)** held at Thessaloniki - Greece during October

19 to October 21, 2020.

Member of the Technical Program Committee of **2nd International Conference on Industry Interactive Innovations in Science, Engineering and Technology (I3SET2K19)** to be organized by JIS College of Engineering, Kalyani during December 13 to December 14, 2019.

Member of the Organizing Committee of **International Conference on Computing Communication Electrical and Electronics Engineering (ICCCEEE - 2020)** to be organized by GPREC, Kurnool, Andhra Pradesh, India during January 10 to January 11, 2020.

Member of the Advisory Committee of **International Conference on Pervasive Communication and Software Intelligence (ICPCSI 2020)** to be organized by Narasu's Sarathy Institute of Technology, Salem, Tamil Nadu during July 03 to 04 July 2020.

Member of the Technical Program Committee of **2020 International Conference on Information Management, Innovation Management and Industrial Engineering (ICIIM 2020)** to be organized by India International Congress on Computational Intelligence (IICCI) during September 15 to September 17, 2020 in Osaka, Japan.

Member of the Technical Program Committee of **International Conference on Computer Communication and Internet of Things (ICCCIOT 2020)** held in Tripura during February 03 to February 04, 2020.

Member of the Technical Program Committee of **The 12th International Conference on Advances in Information Technology (IAT2020)** held in Bangkok, Thailand.

Member of the Organizing Committee of **International Conference on Blockchain & Data Science** held during March 18 to March 19, 2020 in Las Vegas, USA.

Member of the Technical Program Committee of **IEEE CALCON 2020** held during February 28 to February 29, 2020 at Hotel Senses, Kolkata India.

Member of the Technical Program Committee of **7th International Conference on Signal and Image Processing (SIGL 2020)** held during January 25 to January 26, 2020 in Zurich, Switzerland.

Member of the Technical Program Committee of **2020 International Conference on Frontiers of Artificial Intelligence and Statistics (CFAIS 2020)** held during July 17 to July 19, 2020 in Seoul, South Korea.

Member of the Technical Program Committee of **6th International Conference on Mathematics & Computing (ICMC 2020)** to be organized by Department of Computer Applications, Sikkim University, Gangtok, Sikkim, India during March 18 to March 20, 2020.

Member of the Technical Program Committee of **2nd International Ethical Hacking Conference (eHaCON 2019)** organized by Department of Information Technology, Institute of Engineering & Management, Kolkata during August 22 to August 23, 2019 at University of Engineering and Management, Kolkata, India.

Member of the Technical Program Committee of **CSNT 2020 - 9th International Conference on Communication Systems and Network Technologies 2020** held at Nagpur, India during November 07 to November 11, 2020.

Member of the Technical Program Committee of **1st International Symposium on Engineering**

**and Technology 2019 (ISETech 2019)** held at Perlis, Malaysia on December 23, 2019.

Member of the Technical Program Committee of **5th International Conference on Computer Science, Engineering And Applications (CSEA 2019)** held at Dubai, UAE during October 26 to October 27, 2019.

Member of the Technical Program Committee of **4th International Conference on Computational Intelligence and Networks (CINE)** held at ISI Kolkata, India during February 28 to February 29, 2020.

Member of the Technical Program Committee of **5th International Conference on Signal and Image Processing (SIGPRO 2019)** held in Dubai, UAE during August 31 to September 01, 2019.

Member of the Advisory Committee of **Fourth International Conference on Intelligent Computing and Control Systems (ICICCS 2020)** held Vaigai College Engineering, Tamil Nadu, India during May 13 to May 15, 2020.

Member of the Technical Program Committee of **Artificial Intelligence and Natural Language Conference (AINL 2019)** held at Tartu, Estonia during November 20 to November 22, 2019.

Member of Program Committee of **International Workshop on Fuzzy Systems (IWFS 2019)** held during November 25 to November 27, 2019 in Prague, Czech Republic.

Inducted into the expert panel of European Cooperation in Science and Technology (e-cost).

Session Chair on March 22, 2019 of **Technical Session 2 in International Conference on Innovative Computing and Communication (ICICC-2019)** held at VSB-Technical University of Ostrava, Czech Republic during March 21 to March 22, 2019.

Member of the International Technical Program Committee of **International Conference on Electronics & Computational Science Engineering (ICECSE)** held during November 22 to November 23, 2019 at Dr. M. G. R. Educational And Research Institute, Periyar, Chennai, India.

Member of the Technical Program Committee of **8th International conference on Parallel, Distributed Computing and Applications (IPDCA 2019)** held during May 4 to May 5, 2019 in Dubai, UAE.

Member of the Technical Program Committee Member of **6th International Conference on Signal and Image Processing (Signal 2019)** held during June 29 to June 30, 2019 in Copenhagen, Denmark.

Member of the National Advisory Committee of **International Conference on Multidisciplinary Perspectives In Engineering & Technology (ICMPET-2019)** held during May 24 to May 25, 2019 in Markapur, Andhra Pradesh, India.

Member of the Advisory Committee of **4th IEEE International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECCOT-2018)** held during December 13 to December 14, 2019 at GSSS Institute of Engineering & Technology for Women, Mysuru, India.

Member of the International Advisory Board of **International Conference on Innovative Computing and Cutting-edge Technologies (ICICCT 2019)** held during October 30 to October 31, 2019 in Istanbul, Turkey.

Member of the Technical Program Committee of **Seventh International Conference on Artificial Intelligence, Soft Computing (AISC 2019)** held during June 29 to June 30, 2019 in Sydney, Australia.

Member of the International Advisory Committee of **Second International Conference on Intelligent Computing and Advances in Communication (ICAC) 2019** held during November 15 to November 17, 2019 at Shiksha O Anusandhan University (SOA), Bhubaneswar, India.

Appointed as the **National Advisor** of Association of Leaders and Industries, India.

Member of the Technical Program Committee of **2019 International Conference on Machine Learning and Intelligent Systems (MLIS 2019)** held during November 19 to November 22, 2019 at National Dong Hwa University, Taiwan.

Member of the Technical Program Committee of **Understanding of Evolutionary Optimization Behavior Workshop** in 2019 IEEE Congress on Evolutionary Computation (IEEE CEC 2019), held during June 10 to June 13, 2019 at Wellington, New Zealand.

Member of the Technical Program Committee of **7th International Conference of Artificial Intelligence and Fuzzy Logic (AI & FL 2019)** held during April 27 to April 28, 2019 in Copenhagen, Denmark.

Member of the International Advisory Committee of **Fourth International Conference on Communication, Computing and Information Technology (ICCCMIT 2019)** held at M. O. P. Vaishnav College For Women (Autonomous), Chennai, India during February 15 to February 16, 2019.

Member of the International Advisory Committee of **International Conference on Agriculture and IT/IoT/ICT (ICAIT)** held during October 18 to October 20, 2019.

Member of the Technical Program Committee of **8th International Conference on Digital Image Processing and Vision (ICDIPV 2019)** held at Zurich, Switzerland during on March 30 to March 31, 2019.

Member of the Technical Program Committee of **1st International Conference on Artificial Intelligence and Applied Soft Computing (ICAASOC 2019)** held in Cappadocia, Nevsehir, Turkey in September 2019.

Appointed as the National Secretary of **Integrated Chambers of Commerce and Industry**, New Delhi since October 25, 2018.

Member of the Technical Program Committee of **6th International Conference on Signal and Image Processing (SIGL 2019)** held in Dubai during January 26 to January 27, 2019.

Member of the International Advisory Committee of **Second International Conference on Ethical Hacking (eHaCON 2019)** held at Institute of Engineering and Management, Kolkata, India.

Member of the Technical Program Committee of **2019 Annual Meeting on Management Engineering (AMME 2019)** held in Kuala Lumpur, Malaysia during June 8 to June 9, 2019.

Member of the Technical Program Committee of **2019 1st International Conference on Artificial Intelligence and Machine Learning (ICAIML 2019)** held June in Kuala Lumpur, Malaysia during June 08 to June 09, 2019.

Member of the Technical Program Committee of **6th International Conference on Signal, Image Processing and Pattern Recognition (SIPP 2018)** held at Dubai, UAE during November 24 to November 25, 2018.

Member of the Technical Program Committee of **IEEE Region 10 Symposium (IEEE TENSYP 2019)**, held at Biswa Bangla Convention Centre, Kolkata India during June 7 to June 9, 2019.

Session Chair on July 27, 2018 of **TS 1.6: Computational Intelligence in Second International Conference on Computational Intelligence, Communications, and Business Analytics (CICBA-2018)** held at Kalyani Government Engineering College during July 27 to July 28, 2018.

Member of the Technical Program Committee of **4th International Conference on VLSI and Applications (VLSIA-2018)** held at Dubai, UAE during October 27 to October 28, 2018.

Member of the Technical Programme Committee of **Second International Conference on Information Technology and Applied Mathematics (ICITAM 2019)** held at Haldia, India during March 07 to March 09, 2019.

Program Chair of the **First International Symposium on Computer Vision and machine Intelligence in Medical Image Analysis (ISCMM 2019)** held at Sikkim Manipal Institute of Technology, Sikkim, India during February 26 to February 27 2019.

Member of the Technical Programme Committee of **Workshop on Advances in Image Processing, Computer Vision, Pattern Recognition and Machine Intelligence (ICPM'18)** held at Bangalore, India during September 19 to September 22, 2018.

Member of the International Advisory Board of the **International Conference TECHNOCON 2019 on Power & Energy [POWERCON], Electronics & Communication [ELCOMMUNICATION] and Computer and Information Technology [COMPUCON]** held at Newtown, Kolkata during January 11- 13, 2019.

Member of the Technical Programme Committee of **4th IEEE International Symposium on Smart Electronic Systems (IEEE-iSES 2018)** held at Hyderabad, India during December 17 to December 19, 2018.

Member of the Technical Programme Committee of **IEEE Symposium on Computational Intelligence in Cyber Security 2018 Special Session on Computational Intelligence for Digital Data Hiding (IEEE-SSCI 2018)** held at Bengaluru, India during November 18 to November 21, 2018.

Member of the Technical Program Committee of **Artificial Intelligence and Natural Language Conference (AINL 2018)** held at St. Petersburg, Russia during October 17 to October 19, 2018.

Member of the Technical Program Committee of **3rd Asian Conference on Science, Technology & Medicine (ACSTM 2019)** held in Dubai, UAE at the Carlton Palace Hotel during February 12 to February 14, 2019.

Member of the Technical Program Committee of **4th International Conference on Artificial Intelligence and Soft Computing (AIS 2018)** held at Copenhagen, Denmark during April 28 to April 29, 2018.

Member of the Organizing Committee of **International Conferences on Biotechnology & Industrial Revolution (Ligand Biotech 2018)** held at Dubai, UAE during November 12 to Novem-

ber 14, 2018.

Member of the Technical Program Committee of **4th International Conference on Signal Processing (SP 2018)** held Dubai, UAE during June 23 to June 24, 2018.

Member of the Technical Program Committee of **International Conference on Emerging Technology in Modelling and Graphics (IEMGraph 2018)** held at Kolkata, West Bengal, India during September 06 to September 07, 2018.

Member of the Advisory Committee of **International Conference on Future Trends in Engineering, Management, Science & Technology (ICFTEMST-2018)** held at DRK College of Engineering and Technology, Hyderabad, India during May 10 to May 11, 2018.

Program Chair of the **4th International Conference on Advanced Intelligent Systems and Informatics (AISI2018)** held in Cairo, Egypt during September 01 to September 03, 2018.

Member of the Technical Program Committee of the **International Conference on Data and Smart Systems Engineering (DSSE 2018)** held at American University of Beirut (AUB), Beirut, Lebanon.

Member of the Technical Program Committee of the **11th International Conference on Advanced Computing & Communication Technologies (ICACCT 2018)** held at Asia Pacific Institute of Information Technology, Panipat, India during February 17 to February 18, 2018.

Member of the Technical Program Committee of the **4th International Conference on Electronic Design (ICED 2018)** held at Bandar Hilir, Melaka, Malaysia during August 15 to August 16, 2018.

Member of the Technical Program Committee of the Special Session on **Reasoning-based Intelligent Systems in The 2018 IEEE International Conference on INnovations in Intelligent SysTems and Applications (INISTA 2018)** held at Thessaloniki, Greece during July 3 to July 5, 2018.

Session Chair on 26 October, 2017 in the **2nd International Conference on Recent Developments in Control, Automation & Power Engineering (RDCAPE-2017)** held at Amity University during October 25 to October 26, 2017.

Member of the Technical Program Committee of the **5th International Conference on Artificial Intelligence and Applications (AIAPP 2018)** held at Dubai, UAE during February 24 to February 25, 2018.

Member of the Technical Program Committee of the **The International Conference on Advanced Machine Learning Techniques and Applications (AMLTA 2018)** held at Cairo, Egypt during February 22 to February 24, 2018.

Member of the Technical Program Committee of the **International Conference on Computational Intelligence and Communication Networks (CICN 2018)** held at Esbjerg, Denmark on August 18 to August 20, 2018.

Member of the National Advisory Board of the **International Conference on Applied Sciences, Engineering Technology and Management 2017 (ICASET-17)** held at DRK Institute of Science and Technology, Hyderabad, India on November 02 to November 03, 2017.

Member of the Organizing Committee of the **6th World Conference on Applied Science,**

**Engineering and Technology (WCASET - 18)** held at Goa, India on January 02 to January 03, 2018.

Session Chair of the Technical Session titled “Computational Intelligence” on 08 September, 2017 in the **First IEEE International Conference on Advanced Computational and Communication Paradigms (ICACCP - 2017)** held during 08-10 September, 2017 at Sikkim, India.

Member of the Technical Program Committee of the **3rd IEEE International Symposium on Nanoelectronics and Information Systems (iNIS 2017)** held at Bhopal, India on December 18 to December 20, 2017.

Member of the Technical Program Committee of the **International Conference on Information Technology and Applied Mathematics (ICITAM 2017)** held at Haldia Institute of Technology, Haldia, India on October 30 to November 01, 2017.

Member of the Organizing Committee of the **3rd International Conference on Recent Challenges in Engineering and Technology (ICRCET-2017)** held at Annamacharya Institute of Technology & Science, Tirupati, India on September 12 to September 13, 2017.

Member of the International Advisory Board of the **The International Conference on Advanced Machine Learning Techniques and Applications (AMLTA 2018)** held at Cairo, Egypt during February 22 to February 24, 2018.

Member of the Organizing Committee of the **International Colloquium on Biotechnology & Industrial Revolution (INNOVATE BIOTECH-2017)** held at Brisbane, Australia during November 27 to November 28, 2017.

Member of the Technical Program Committee of the **International Conference on Information Technology and Applied Mathematics (ICITAM 2017)** to be organized at Haldia, India during October 30 to November 01, 2017.

Member of the Technical Program Committee of the **International Conference on Emerging Electronic Solution for IoT (ICEESI 2017)** held at Penang, Malaysia, India during October 09 to October 10, 2017.

Member of the Technical Program Committee of the **Sixth International Conference on Artificial Intelligence and Natural Language (AINL 2017)** to be organized at St. Petersburg, Russia during September 20 to September 23, 2017.

Member of the Technical Program Committee of the **Second International Conference on Advanced Wireless Information and Communication Technologies (AWICT 2017)** to be organized by Université de Paris-Saclay, Paris, France during November 13 to November 14, 2017.

Member of the Advisory Committee of One day seminar on “Internet of Things on Cloud Platform” to be organized by the Department of Computer Science and Engineering, Cooch Behar Government Engineering College, Cooch Behar, West Bengal and held on 12th April, 2017.

Acted as the Session Chair of Track “Signal Processing and Communications” in the First International Conference on Computational Intelligence, Communications, and Business Analytics (CICBA-2017) held at Calcutta Business School on March 24, 2017.

Member of the Organizing Committee of the **International Conference on Soft Computing Applications To Power Systems & Power Electronics (ICPSPE-2017)** held during April 12 to April 13, 2017 at Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya, Kanchipuram,

India.

Member of the Technical Program Committee of the **2nd International Conference on Recent Developments in Control, Automation and Power Engineering (RDCAPE 2017)** to be organized by the Department of Electrical and Electronics Engineering (EEE), Amity School of Engineering & Technology (ASET), Amity University Uttar Pradesh, Noida (UP), India during October 26 to October 27, 2017.

Member of the Technical Program Committee of the **9th International Conference on Computational Intelligence and Communication Networks (CICN 2017)** held in Final International University, Cyprus during September 16 to September 17, 2017.

Member of the Technical Program Committee of the **International Conference on Emerging Electronic Solutions for IoT (ICEESI 2017)** held in Penang, Malaysia during October 9 to October 10, 2017.

Member of the Technical Program Committee of the **International Conference on Internet of Things and Machine Learning (IML 2017)** held in Liverpool John Moores University, Liverpool city, United Kingdom in October 2017.

Member of the Technical Program Committee of the **2nd International Conference on Computational Science and Mathematics in Engineering (CSME 2017)** held in Beijing, China during April 22, 2017 to April 23, 2017.

Member of the Technical Program Committee of the **Third International Symposium on Intelligent Systems Technologies and Applications (ISTA'17)** held in Manipal, Karnataka, India during September 13 to September 16, 2017.

Reviewer of **Engineering Applications of Artificial Intelligence**, Elsevier B. V. (2016), **Applied Soft Computing**, Elsevier B. V. (2016).

Member of the Technical Program Committee of the **Sixth IEEE International Conference on Advances in Computing, Communications and Informatics (ICACCI'17)** held in Manipal, Karnataka, India during September 13 to September 16, 2017.

Member of the International Advisory Committee of the **International Conference on Next Generation Computing And Communication Technology (ICNGCCT-17)** held during March 18 to March 19, 2017 at Annamacharya Institute of Technology and Science, Rajampet, Andhra Pradesh, India.

Member of the Scientific and Technical Committee of the **International Conference on Computer-aided Technology and Applications (CaTa 2016)** held during December 15 to December 16, 2016 in Dubai, UAE.

Session Chair of the session Soft Computing of the **International Conference on Computational Science and Engineering** organized by the Departments of Electronics and Communication Engineering and Computer Application, RCC Institute of Information Technology, Kolkata and held at Kolkata, India on 05.10.2016.

Member of the International Advisory Committee of the **First International Conference On Computational Intelligence, Communications and Business Analytics (CICBA - 2017)** held during March 24 to March 25, 2017 at Calcutta Business School, Kolkata, India.

Member of the Technical Program Committee of the **3rd IEEE Asia-Pacific World Congress**

**on Computer Science and Engineering 2016** held during December 05 to December 06, 2016 at Sofitel Fiji Resort & Spa, Denarau Island, Fiji.

Member of the Scientific Committee of the **Middle East Congress on Soft Computing, Intelligent Systems and Control (SCISC 2016)** held during September 20 to September 21 2016 in Antalya, Turkey.

Member of the Technical Program Committee of the **International Conference on Computational Science and Engineering (ICCSE 2016)** held during October 04 to October 06, 2016 at RCC Institute of Information Technology, Kolkata, India.

Member of the International Advisory Committee of **International Conference of Advanced Computing (ICAC 2016)** held during September 23 to September 25 at MAKAUT, Kolkata, India.

Member of the Technical Program Committee of the **10th International Conference on Advanced Computing & Communication Technologies (ICACCT 2016)** held during November 18 to November 20, 2016 at Asia Pacific Institute of Information Technology, Panipat, India.

Member of the Technical Program Committee of the **2016 International Conference on Advances in Computing, Communications and Informatics (ICACCI 2016)** held during September 21 to September 24, 2016 at Jaipur, India.

Member of the National Advisory Committee of the **National Conference on Recent Innovations in Computer Science & Communication Engineering (RICCE 2016)** organized by the Department of Computer Science and Engineering, RCC Institute of Information Technology, Kolkata during July 07-08, 2016.

Member of the Technical Program Committee of the **Second International Symposium on Intelligent Systems Technologies and Applications (ISTA'16)** held during September 21-24, 2016 at Jaipur, India.

Member of the National Advisory Committee of the **National Seminar on Global Development and Sustainable Computing (GDSC 16)** organized by MATS School of Information Technology, MATS University, Raipur, C. G during February 06-07, 2016.

Lead Guest Editor of Special Issue on Computational Intelligence and Communications in **International Journal of Computers and Applications (IJCA)**; Publisher: Taylor & Francis, UK in 2016.

Member of the Technical Program Committee of the **Second International Conference on Signal and Image Processing (SIGPRO 2016)** held during April 02-03, 2016 at Chennai, India.

Member of Reviewer Board of the **National Conference on Computational Technologies-2016 (NCCT'16)** organized by Department of Computer Science and Application, NBU and held on February 26, 2016.

Member of the Technical Program Committee of the **Fifth International Conference on Embedded Systems and Applications (EMSA-2016)** held during January 22 to January 23, 2016 at Dubai, UAE.

Member of the Technical Program Committee of the **Fifth International Conference on Cloud Computing: Services and Architecture (CLOUD 2016)** held during January 22 to January 23, 2016 at Dubai, UAE.

Member of the Technical Program Committee of the **Sixth IEEE International Advance Computing Conference (IACC - 2016)** held during February 27 to February 28, 2016 at Andhra Pradesh, India.

Member of the Technical Program Committee of the **Second International Conference on Electrical and Electronics Engineering (ELEE 2015)** held during November 06 to November 07, 2015 at Dubai, UAE.

Session Chair of the Session T10: Image Processing-I of **2015 IEEE 2nd International Conference on Recent Trends in Information Systems (ReTIS 15)** on July 11, 2015 at Jadavpur University, Kolkata.

Member of the Technical Program Committee of the **Seventh International Conference on Computational Intelligence and Communication Networks (CICN 2015)** held during December 12 to December 14, 2015 at Jabalpur, India.

Member of the Technical Program Committee of the **Sixth International Conference on Ad hoc, sensor & Ubiquitous Computing (ASUC-2015)** held during November 06 to November 07, 2015 at Dubai, UAE.

Member of the Technical Program Committee of the **Fourth International Conference on Data Mining & Knowledge Management Process (CDKP 2015)** held during November 06 to November 07, 2015 at Dubai, UAE.

Member of the National Advisory Committee of the **National Conference on Frontline Research on Computer, Communication and Device** organized by Department of Electronics and Communication Engineering, RCC Institute of Information Technology, Kolkata during December 29 to December 30 2015.

Member of the Technical Program Committee of the **International Conference on Computer Science and Information Engineering (ICCSIE 2015)** held during October 23 to October 25, 2015 at Ningbo, China.

Reviewer of **IEEE Transactions of Evolutionary Computation** (2015), **Applied Soft Computing**, Elsevier B. V. (2015), **Sadhana - Academy Proceedings in Engineering Science**, Springer (2015).

Member of the Technical Program Committee of the **Third International Conference of Managing Information Technology (CMIT-2015)** held during June 13 to June 14, 2015 at Zurich, Switzerland.

Member of the Technical Program Committee of the **Second International Conference on Artificial Intelligence and Applications (AIAP-2015)** held during May 23 to May 24, 2015 at Vienna, Austria.

Member of the Technical Program Committee of the **Fourth International Conference on Information Theory (IT 2015)** held during May 23 to May 24, 2015 at Vienna, Austria.

Session Chair of the **IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (IEEE SPICES 2015)** on February 19, 2015 at Calicut, India.

Member of the Technical Program Committee of the **15th IEEE International Conference on Scalable Computing and Communications (ScalCom 2015)** held during August 10 to August

14, 2015 Beijing, China.

Lead Guest Editor of Special Issue on Hybrid Intelligent Techniques for Image Analysis and Understanding in **Applied Soft Computing** in 2015-2016.

Member of the Technical Program Committee of the **International Conference on Networks, Mobile Communications and Telematics (NMOCT-2015)** held during April 25 to April 26, 2015 at Bangalore, India.

Member of the Technical Program Committee of the **International Conference on Signal and Image Processing (SIGI 2015)** held during April 25 to April 26, 2015 at Bangalore, India.

Member of Reviewer Board of the **National Conference on Computational Technologies-2015 (NCCT'15)** organized by Department of Computer Science and Application, NBU in collaboration with Computer Society of India(CSI), Div-V (Education and Research) Under Region-II, Siliguri Chapter and held on February 20, 2015.

Member of the Technical Program Committee of **2015 International Conference on Fuzzy System and Data Mining (FSDM 2015)** held in Shanghai, China on December 12-15, 2015.

Member of the Technical Program Committee of the **2015 IEEE 2nd International Conference on Recent Trends in Information Systems (ReTIS 15)** held during July 09 to July 11, 2015 at Jadavpur University, Kolkata.

Member of the Technical Program Committee of **Third International Symposium on Women in Computing and Informatics (WCI-2015)** held during August 10-13, 2015 at Kochi, India.

Member of the Technical Program Committee of **Fifth International Conference on Communication Systems and Network Technologies 2015 (CSNT 2015)** held during April 04 to April 06, 2015 at Gwalior, India.

Member of the International Program Committee of **Fourth International Conference on Parallel, Distributed Computing Technologies and Applications (PDCTA-2015)** held during February 21-22, 2015 at Sydney, Australia.

Member of the International Program Committee of the **International Conference on Computer Science, Engineering and Information Technology (CSITY-2015)** held during February 14-15, 2015 in Bangalore, India.

Member of the International Program Committee of **Sixth International Conference on Database Management Systems (DMS-2015)** organized during January 02-03, 2015 at Zurich, Switzerland.

Member of the International Program Committee of **Second International Conference on Artificial Intelligence and Applications (ARIA-2015)** organized during January 02-03, 2015 at Zurich, Switzerland.

Member of the International Program Committee of **Second International Conference on Information systems Design and Intelligent Applications – 2015 (INDIA-2015)** organized by Faculty of Engineering, Technology and Management, University of Kalyani, Kalyani-741235, West Bengal, India during January 08-09, 2015.

Member of the International Program Committee of **International Conference on Signal, Image Processing and Multimedia (SPM-2014)** organized during December 27-28, 2014 at Sydney,

Australia.

Member of the International Program Committee of **Sixth International Conference on Network & Communications Security (NCS-2014)** organized during December 27-28, 2014 at Sydney, Australia.

Member of the International Program Committee of **Sixth International Conference on Wireless & Mobile Networks (WiMoNe-2014)** organized during December 27-28, 2014 at Sydney, Australia.

Editor-In-Chief of **International Journal of Ambient Computing and Intelligence (IJACI)** published by IGI Global, Hershey, PA, USA from 17th July 2014 to 06th November 2014.

Member of the Technical Program Committee of the **IEEE Asia Pacific World Congress on Computer Science and Engineering (IEEE APWC-2014)** held during 04-05 November, 2014 at Nadi, Fiji.

Member of the Technical Program Committee of the **Second International Symposium on Women in Computing and Informatics (WCI-2014)** held during 24-27 September, 2014 at Delhi, India.

Member of the Technical Program Committee of the **Sixth IEEE International Conference on Computational Intelligence and Communication Networks (CICN 2014)** held during 08-10 November, 2014 at Udaipur, India.

Session Chair of the **Fourth IEEE International Conference on Communication Systems and Network Technologies 2014 (CSNT 2014)** on April 07, 2014 at Bhopal, India.

Member of the Technical Program Committee of the **2nd International Conference on Machine Intelligence Research and Advancement (ICMIRA 2014)**.

Member of the Technical Program Committee of the **Fourth IEEE International Conference on Communication Systems and Network Technologies 2014 (CSNT 2014)** held during April 07 to April 09, 2014 at Bhopal, India.

Member of the Technical Program Committee of the **IEEE International Conference on Computational Intelligence and Communication Networks (CICN 2013)** held during September 27 to September 29, 2013 at Mathura, India.

Member of the Technical Program Committee of the **IEEE International Conference on Communication Systems and Network Technologies (CSNT 2013)** held during April 05 to April 08, 2013 at Gwalior, India.

Member of the Technical Program Committee of the **IEEE International Conference on Machine Intelligence Research and Advancement (ICMIRA-2013)** held during 21st-23rd Dec 2013 in SMVDU Katra, India.

Member of the Technical Program Committee of the **International Conference on Machine Intelligence Research and Advancement (MIRA-2013)** held during 27th -29th Dec 2013 in SMVDU Katra, India.

Member of the Organizing Committee of the **International Conference on Recent Trends in Information Systems (ReTIS 2011)** held during December 21-23, 2011 in Kolkata, India.

Member of the International Program Committee of the **IEEE International Conference on Soft Computing for Problem Solving (SoCProS 2011)** held during December 16-18, 2011 in Roorkee, India.

Member of the International Program Committee of the **IEEE World Congress on Information and Communication Technologies (WICT 2011)** held during December 11-14, 2011 in Mumbai, India.

Member of the Technical Program Committee of the **IEEE International Conference on Computational Intelligence and Communication Networks (CICN2011)** held during October 07 to October 09, 2011 at Gwalior, India.

Member of the Technical Program Committee of the **IEEE International Conference on Communication Systems and Network Technologies (CSNT-2011)** held during June 03 to June 05 2011 at Shri Mata Vaishno Devi University, Katra, Jammu, India.

Member of the Technical Committee of the **National Conference on Emerging Trends in Educational Informatics (ETEI 2010)** held during December 23 to December 24, 2010 at NITTTR, Kolkata.

Reviewers of the **Pattern Analysis and Applications**, Springer (2007), **Simulation Modeling, Practice and Theory**, Elsevier B. V. (2009), **Journal of Pattern Recognition Research** (2010), **International Journal of Engineering, Science and Technology** (2010), **Applied Soft Computing** (2010, 2011), **SPIE Optical Engineering** (2011), **Machine Vision and Applications**, Springer (2011).

Member of the Young Researchers' Committee of **WSC 2008 Online World Conference on Soft Computing in Industrial Applications** held from November 10 to November 21, 2008.

Reviewer for **Pearson Education India Ltd.** in 2008.

Member of the organizing committee of the **National Conference on Recent Trends in Information Systems (ReTIS 08)** held during February 07 to February 09, 2008 at Jadavpur University, Kolkata.

Member of the executive committee of the One-day seminar on **IT Beyond 2010** organized by University Institute of Technology, The University of Burdwan, Burdwan in 2007.

Member of the Technical Program Committee of the **National Conference on Recent Trends in Intelligent Computing (RTIC 06)** held during November 17 to November 19, 2006 at Kalyani Government Engineering College, Kalyani.

Member of the organizing committee of the **National Conference on Recent Trends in Information Systems (ReTIS 06)** held during July 14 to July 15, 2006 at Jadavpur University, Kolkata.

OTHER ACADEMIC  
AND  
ADMINISTRATIVE  
DUTIES

Acted as the **External Examiner** of Final Year Project (IT-795) of WBUT Examinations of MCKV Institute of Engineering, Liluah, Howrah – 711 204, West Bengal, India on 28.11.2014.

Acted as the West Bengal University of Technology **Station Supervisor** in Even Semester 2012.

Acted as the **Head Examiner** of Information Technology for the Even Semester Examinations 2009-2010 of The University of Burdwan, Burdwan.

Acted as the **Board Observer** of the West Bengal Joint Entrance Examinations Board for the JEM 2010 Examinations held on 18.04.2010.

Acted as the **External examiner** for B. Sc. Computer Science (Hons.) and M. Sc. Computer Science Examinations of Visva-Bharati University in 2010.

Acted as the **External examiner** for B. Sc. Computer Science (Hons.) Part – I Examinations of Kalyani University in 2009.

Acted as the **External examiner** for B. Sc. Computer Science (Hons.) Part – I & II Examinations of Kalyani University in 2007.

Member of a two-member team by the Government of West Bengal to visit DA-IICT, Gandhinagar, Gujarat to survey the state-of-art **e-Governance project** implemented over there and to explore possibilities for implementation of the same at Presidency College, Kolkata in 2005.

Member of the **recruitment board** for inducting IT Officers in the Allahabad Bank in 2004.

Acted as the **Head Examiner** of Information Technology for the Odd Semester Examinations 2006-2007 of The University of Burdwan.

Guided MCA project on **VIRTUAL REALITY: A NEW HORIZON OF MODELLING LANGUAGE** awarded the Best Project Award in the All India Students' Engineering Congress organized by ISTE Students' Chapter, Durgapur during January 21-22, 2006 and the Best Project Award by TATA Consultancy Services on February 02, 2007.

Acted as the **External examiner** for M. E. Illumination Engineering Examinations of Jadavpur University in 2006.

Officiated as an **External examiner** for MCA 4th Semester Examinations of Jadavpur University in 2005.

Acted as the **External examiner** for M. Comp. Tech. 5th Semester Examinations of Jadavpur University in 2004.

Acted as the **Professor-in-charge of Training** of the Department of Information Technology of Kalyani Government Engineering College, Kalyani, Nadia in 2003.

#### REFERENCES

1. Prof. (Dr.) Rudolf Kruse, Otto Von Guericke University Magdeburg. Germany; email: rudolf.kruse@ovgu.de
2. Prof. (Dr.) Elizabeth Behrman, Wichita State University, Kansas, USA; email: ecbehrman@gmail.com
3. Prof. (Dr.) Mario Koeppen, Kyushu Institute of Technology, Fukuoka, Japan; email: mkoepen@ieee.org

Ostrava, Czech Republic  
November 10, 2024

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*Siddhartha Bhattacharyya*