Hemant Kumar

hemantime@gmail.com +918756429284 +918756429284
Scopus WoS 0000-0003-0603-4394 Google Scholar Coursera

Employment

2025 – till date **Assistant Professor,** Department of Computing and Information Science, Chandigarh University, Unnao, Uttar Pradesh, India.

2012 – 2025 **Assistant Professor,** Department of Information Technology, School of Engineering & Technology, Chhatrapati Shahu Ji Maharaj University, Kanpur, India.

Education

2022 – 2026 **Ph.D. (Pursuing),** Department of Computer Science & Engineering, Harcourt Butler Technical University, Kanpur, India.
Thesis title: *Improved Diagnosis of Alzheimer's Disease Using Neuroimaging.*

2009 – 2011 **M.Tech.**, from School of Electronics, Devi Ahilya Vishwavidyalaya, Indore, India.

2006 – 2009 **M.C.A.** from Uttar Pradesh Technical University, India.

Research Publications

Journal Articles

1. V. Awasthi, M. Tiwari, A. Yadav, *et al.*, "Optimizing brain tumor detection in mri scans through inceptionresnetv2 and deep stacked autoencoders with swiglu activation and sparsity regularization," *MethodsX*, vol. 14, 2025. DOI: 10.1016/j.mex.2025.103255.

2. H. Kumar, R. Agarwal, and A. Yadav, "Bio-inspired gloden jackal optimization of xgboost model enhances 30-day sepsis mortality predictions," *Journal of Critical Care*, vol. 87, p. 155 013, 2025, ISSN: 0883-9441. DOI: https://doi.org/10.1016/j.jcrc.2024.155013.

3. H. Kumar, R. Sachan, M. Tiwari, *et al.*, "Hybrid sign language recognition framework leveraging mobilenetv3, mult-head self attention and lightgbm," *Journal of Electronics, Electromedical Engineering, and Medical Informatics*, vol. 7, no. 2, pp. 318–329, 2025, ISSN: 26568632. DOI: 10.35882/jeeemi.v7i2.685.

4. M. Tiwari, V. Awasthi, D. Sahu, *et al.*, "Gjo-xgboost: Optimized xgboost with golden jackal algorithm for 30-days mortality in sepsis patients," *International Journal of Intelligent Engineering and Systems*, vol. 18, no. 2, pp. 204–214, 2025, ISSN: 2185310X. DOI: 10.22266/IJIES2025.0331.16.

5. V. Awasthi, N. Awasthi, H. Kumar, *et al.*, "ViT-HHO: Optimized Vision Transformer for Diabetic Retinopathy Detection Using Harris Hawk Optimization," *Methods X*, vol. 13, Dec. 2024. DOI: 10.1016/j.mex.2024.103018.

6. H. Kumar, A. Dwivedi, A. K. Mishra, *et al.*, "Transformer-Based Decoder of Melanoma Classification Using Hand-Crafted Texture Feature Fusion and Gray Wolf Optimization Algorithm," *Methods X*, vol. 13, Dec. 2024. DOI: 10.1016/j.mex.2024.102839.

7. M. Tiwari, H. Kumar, N. Prakash, *et al.*, "Tomato Disease Detection Using Vision Transformer with Residual L1-Norm Attention and Deep Neural Networks," *International Journal of Intelligent Engineering and Systems*, vol. 17, pp. 679–688, Feb. 2024. DOI: 10.22266/ijies2024.0229.57.

Conference Proceedings

1. H. Kumar and R. Agarwal, "ViT-ALZ: Vision Transformer with Deep Neural Network for Alzheimer's Disease Detection," in *Lecture Notes in Networks and Systems*, vol. 971, 2024, pp. 175–184. DOI: 10.1007/978-981-97-2089-7_16.

2. A. Misra, P. K. Misra, H. Kumar, T. V. Reddy, S. Ramamurthy, and K. G. Rao, "Role of artificial intelligence in precision pathology of breast cancer," in *AIP Conference Proceedings*, vol. 2603, 2023, ISBN: 9780735444430. DOI: 10.1063/5.0126278.

Books and Chapters

1. B. K. Khare, D. Sahu, D. Pandey, M. Tiwari, H. Kumar, and N. Siddiqui, "Exploring Machine Learning Solutions for Anomaly Detection in 6G Communication Systems," in *Security Issues and Solutions in 6G Communications and Beyond*, IGI Global, 2024, pp. 230–250. DOI: 10.4018/979-8-3693-2931-3.ch014.
2. H. Kumar, D. Pandey, A. Yadav, R. Agarwal, S. Tripathi, and S. K. Malhotra, *A hybrid efficientNetBo-XGBoost framework for efficient brain tumor classification using MRI images*. 2024, pp. 519–534, ISBN: 979-833731034-3; 979-833731032-9. DOI: 10.4018/979-8-3373-1032-9.ch033.
3. A. Virmani, A. Singh, R. Agarwal, S. Kumar, and H. Kumar, "X-Ray-Based Pneumonia Detection Using ResNet50 and VGG16 Extracted Features and Conventional Machine Learning Algorithms," in *Artificial Intelligence and Machine Learning*, T. Rohit, B. Surbhi, S. Varun, and A. Neelu Jyoti, Eds., CRC Press, Oct. 2023, pp. 15–25. DOI: 10.1201/9781003388319-2.

FDP, Short-Term Course

Short-Term Courses

1. Fundamentals of Digital Image and Video Processing from Coursera (Northwestern University), July 2014.
2. Neural Networks and Deep Learning from Coursera (deeplearning.ai), September 2017.
3. Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization" from Coursera (deeplearning.ai), September 2017.
4. Structuring Machine Learning Projects from Coursera (deeplearning.ai), September 2017.
5. Programming for Everybody (Getting Started with Python) from Coursera (University of Michigan), May 2021.
6. Python Data Structures from Coursera (University of Michigan), May 2021.
7. DeepLearning.AI TensorFlow Developer from Coursera (deeplearning.ai), May 2021.
8. Machine Learning" from Coursera (University of Washington), May 2021.
9. Generative Adversarial Networks (GANs) from Coursera (deeplearning.ai), May 2021.
10. AI for Medicine from Coursera (deeplearning.ai), May 2021.

Faculty Development Programs (FDP)

1. "Soft Computing with MATLAB" organized by ITM University Gwalior from June 22 - 24, 2015.
2. "Statistical Tools and R Software(STARS-2015)" organized by the Centre for Development of Technical Education, IIT Kanpur from September 17 - 21, 2015.
3. "Advanced Algorithms in Computing" organized by the Department of Computer Science & Engineering, HBTI, Kanpur, during January 25-30, 2016.
4. "Medical Imaging: Techniques and Image Processing" under Continuing Education Programme held from March 25 - 27, 2016, at IIT Delhi.
5. "Deep Learning and Applications" organized by IIT Kanpur, from January 12-16, 2017.
6. "Blockchain" organized by UIET, CSJM University Kanpur, from September 31-04, 2020 (online ATAL FDP).
7. "Data Sciences" organized by Prathyusha Engineering College, from September 07-11, 2020 (online ATAL FDP).

FDP, Short-Term Course (continued)

8 "Introduction to Information and Communications Technology" organized by E & ICT Academy, IIT Kanpur, from January 06-19, 2021.

9 Refresher programme on "Machine Learning" organized by University Institute of Engineering & Technology, Kanpur, from February 18-23, 2022.

Skills

Languages Strong reading, writing and speaking competencies for English, Hindi.

Coding Python, R, LaTeX.

Misc. Academic research, teaching, LaTeX typesetting and publishing.

Awards and Achievements

UGC-NET Qualified in 2020.

GATE Qualified in 2009.

References

Dr Rashi Agarwal
Associate Professor
Harcourt Butler Technical University,
Kanpur, India.
rashi@hbtu.ac.in

Dr. Amit Yadav
Associate Professor
PSIT,
Kanpur, India.
amityadav12@gmail.com

Dr. Krishna Kant Bhartiy
Assistant Professor
Harcourt Butler Technical University,
Kanpur, India.
krishna@hbtu.ac.in