

Curriculum Vitae

Dr. Shirina Samreen, Ph.D. (CSE), MIEEE

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Associate Professor, College of Computer and Information Sciences (CCIS), Majmaah University, Kingdom of Saudi Arabia

Academic Profile

Dedicated and dynamic academician with a Ph.D. in Computer Science Engineering and over 18 years of teaching, research, and academic leadership experience. Expertise in Machine Learning, Cybersecurity, Mobile Ad Hoc Networks, and Network Security. Published extensively in high-impact SCIE and ESCI journals, recipient of multiple Best Paper Awards at IEEE conferences, and leader in curriculum design, quality assurance, and accreditation processes. Adept at motivating students, fostering collaborative research, and delivering cutting-edge instruction across diverse learner groups.

Education

- Ph.D. in Computer Science Engineering, JNT University, Hyderabad, India – April 2016
- M.Tech in Computer Science (Distinction), JNT University, Hyderabad, India – November 2006
- B.Tech in Computer Science Engineering (Distinction), JNT University, Hyderabad, India – March 2003

Academic Appointments

- Associate Professor, College of Computer and Information Sciences (CCIS), Majmaah University, Saudi Arabia (Oct 2018 – Present)
- Guest Faculty, BITS-Pilani Hyderabad – Work Integrated Learning Programme (WILP) & Wipro Academy of Software Excellence (WASE) (Jun 2015 – Present)
- Associate Professor, Dept of CSE, Anurag Group of Inst, India (Jun 2016–Jun 2018)
- Associate Professor, Dept of CSE, Guru Nanak Institutions Technical Campus, India (Aug 2012 - May 2013)
- Associate Professor, Dept of CSE, Nizam Institute of Engg & Technology, India (Sept 2011 – Apr 2012)
- Associate Professor, Dept of CSE, CMR Engg College, India (Jan 2011 – Aug 2011)
- Associate Professor and Head, Dept of CSE, Nexus College of Science & Technology, India (Nov 2008 to Dec 2010)

- Asst. Professor in the Dept of CSE, St.Mary's College of Engg & Technology, India (Dec 2006 – Nov 2008)

Teaching Philosophy & Expertise

I believe in creating an engaging, challenging, and inclusive classroom environment where students can develop critical thinking, problem-solving skills, and practical expertise.

My teaching expertise includes subjects such as Cybersecurity Foundations, Machine Learning, Malware and Software Vulnerability Analysis, Operating System Forensics, Big Data Analytics, Cloud Computing, Operating Systems, Software Project Management, Compiler Design, Automata Theory, Data Structures & Algorithms, Computer Networks, C/C++ and Java Programming.

Research Interests

Machine Learning Applications in Cybersecurity and Healthcare; Mobile Ad Hoc Networks (MANETs); Network Security; Big Data Analytics; Trust Management Frameworks; Privacy-preserving AI; and Secure Routing Protocols.

Funded Research Projects

- Co-Principal Investigator - Deep learning for privacy preserving social media posts. 2024-2025. Funded by Deanship of Scientific Research, Majmaah University, Saudi Arabia.
- Principal Investigator - Stage-wise Diagnosis of Hepatitis C Virus using Machine Learning. 2024-2025. Funded by Deanship of Scientific Research, Majmaah University, Saudi Arabia.
Co-Principal Investigator - Software effort estimation through machine learning. 2024-2025. Funded by Deanship of Scientific Research, Majmaah University, Saudi Arabia.
Co-Principal Investigator – Trust enabled routing in VANETs. 2024-2025. Funded by Deanship of Scientific Research, Majmaah University, Saudi Arabia.
- Co-Principal Investigator - Rice disease diagnosis system (RDDS). 2022. Funded by Deanship of Scientific Research, Majmaah University, Saudi Arabia.
- Principal Investigator - Early diagnosis of diabetes through a machine learning. 2021, Funded by Deanship of Scientific Research, Majmaah University, Saudi Arabia.
- Co-Principal Investigator - Gesture recognition algorithm for visually blind. 2019 – 2020, Funded by Deanship of Scientific Research, Majmaah University, Saudi Arabia.
- Principal Investigator – Trust based defense of on-off attack pattern in a MANET. 2019-2021. Funded by Deanship of Scientific Research, Majmaah University, Saudi Arabia.

Journal Publications

1. Samreen, S. (2025). Multiple model visual feature embedding and selection method for an efficient pest classification supporting precision agriculture (SCIE, Q1)
2. Samreen, S. (2025). Expressive Cartoon Card (ECC) Generation using Deep Learning for Privacy Preserving Social Media Posts. *Traitement du Signal* (SCIE, Q3).
3. Samreen, S. (2025). Trust Enabled Secure Routing in Vehicular Adhoc Networks. *Trust Enabled Secure Routing in Vehicular Adhoc Networks* (SCIE, Q4).
4. Samreen, S. (Forthcoming). Machine Learning Pipeline with an Optimal Feature Set in the Stage-wise Diagnosis of Hepatitis C Virus. *International Journal of Data Mining, Modelling and Management* (ESCI).
5. Samreen, S. (2024). Improved Software Effort Estimation through Machine Learning: Challenges, Applications, and Feature Importance Analysis. *IEEE Access* (SCIE, Q2).
6. Samreen, S. (2024). Enhanced Image Super Resolution using ResNet Generative Adversarial Networks. *Traitement du Signal*, 41(4), 2035–2046 (SCIE, Q3).
7. Samreen, S. (2022). Rice Disease Diagnosis System (RDDS). *Computers, Materials & Continua*, 73(1), 1895–1914 (SCIE, Q2).
8. Samreen, S. (2022). Resistance to Malicious Packet Droppers through Enhanced AODV in a MANET. *Computers, Materials & Continua*, 22(2), 4087–4106 (SCIE, Q2).
9. Samreen, S. (2021). Memory-Efficient, Accurate and Early Diagnosis of Diabetes Through a Machine Learning Pipeline Employing Crow Search-Based Feature Engineering and a Stacking Ensemble. *IEEE Access*, 9, 134335–134354 (SCIE, Q2).
10. Samreen, S. (2021). Shielding against on-off attack pattern in a MANET through a trust computation scheme leveraging behavioral consistency. *International Journal of Communication Networks and Distributed Systems*, 27(2), 178–213 (ESCI).
11. Samreen, S. (2020). Resiliency to Conflicting Behaviour Attack through a comprehensive Trust Management Framework to reduce uncertainty in a Mobile Ad hoc Network. *International Journal of Computer Science and Network Security*, 20(10), 188–198 (ESCI).
12. Samreen, S. (2020). Gesture Recognition Algorithm for Visually Blind Touch Interaction Optimization Using Crow Search Method. *IEEE Access*, 8, 127560–127568 (SCIE, Q1).
13. Samreen, S. (2018). The future of health care: Machine Learning. *International Journal of Engineering & Technology*, 7(4.6), 23–25.
14. Samreen, S. (2018). Cyber physical systems for smart cities development. *International Journal of Engineering & Technology*, 7, 36–38.
15. Samreen, S. (2018). Packet Dropping Countermeasures in a MANET through Reliable Routing Protocol leveraging a Trust Management Framework. *International Journal of Mobile Computing and Multimedia Communications*, 9(3), 60–75.
16. Samreen, S. (2018). Data Plane Security Solutions in a Mobile Ad hoc Network: A survey. *International Journal of Engineering and Applied Sciences*, 13(6), 1425–1429.
17. Samreen, S. (2018). Eminence Administration System in a United Cloud – A Survey. *International Journal of Engineering Research in Computer Science and Engineering*, 5(4).

18. Samreen, S. (2018). Security Challenges in Mobile Computing – A State of Art Survey. *International Journal of Research*, 5(12).
19. Samreen, S. (2017). Improving Routing Algorithms and Inter-Flow Spatial Reusability in Wireless Network. *International Journal of Innovative Research in Science, Engineering and Technology*, 6(8).
20. Samreen, S. (2017). Secure and Reliable Black Hole Detection Attack and to Increase the Network LifeTime in Wireless Sensor Networks. *International Journal of Innovative Research in Science, Engineering and Technology*, 6(8).
21. Samreen, S. (2015). Trust based Data Plane Security Mechanism for a Mobile Ad hoc Network through Acknowledgement Reports. *International Journal of Computer Applications*, 130.
22. Samreen, S. (2015). Design of a Novel Trust Model and its application in Trust based Routing to defend against Dishonest Recommenders. *International Journal of Computer Applications*, 122(2).
23. Samreen, S. (2015). A Novel Uncertainty Reasoning Based Trust Model Robust to on-off Attacks and its Application in Trust Based Routing. *International Journal of Advanced Computing*, 48(1).
24. Samreen, S. (2015). Dynamically Adaptive Recommender Filtering Scheme to defend against Dishonest Recommenders in a MANET. *International Journal of Science and Research*, 4(5).
25. Samreen, S. (2013). An Efficient Security Mechanism to Detect Packet Droppers in a MANET under Individual and Collusive Adversarial Models. *International Journal of Computer Applications*, 82(2).
26. Samreen, S. (2013). An extension to secure hybrid routing protocol to combat malicious packet dropping attack in a MANET. *International Journal of Computer Applications*, 82(2).
27. Samreen, S. (2013). A secure hybrid routing protocol to combat malicious packet dropping attack in a MANET. *International Journal of Computer Applications*, 65(10).
28. Samreen, S. (2012). Detection of Colluding Adversaries in a Packet Drop Attack in MANET. *International Journal of Engineering Research and Technology*.

Book Chapters

29. Samreen, S. (2024). Exploring Social Engineering Attacks Involving Insights From Case Studies. In *Effective Strategies for Combatting Social Engineering in Cybersecurity*. (260624-021151), IGI Global.
30. Samreen, S. (Forthcoming). Detection and diagnosis for pneumonia classification using resnet deep learning algorithm. In *Transformative Role of Transformer Models in Healthcare*. (220425-022154), IGI Global.
31. Samreen, S. (Forthcoming). Security Assessment of Websites Against DoS, DDoS and User Enumeration Vulnerabilities. In *Advanced Modern Techniques in Hardware Security Systems*. (020325-013302), IGI Global.

Conference Proceedings

32. Samreen, S. (2025, Aug). Explainable and Efficient Approach Hepatitis C Virus Prediction using an Autoencoder. 5th International Conference on Computing and Communication Networks (ICCCNet-2025), Manchester, UK.
33. Samreen, S. (2025, Jul). Autoencoder based Feature Engineering for Android Malware Detection using Ensemble Classifiers. 10th International Conference on ICT for Sustainable Development (ICT4SD 2025).
34. Samreen, S. (2025, Jul). A Novel Explainable Hybrid Framework for Temporal Risk Prediction and Anomaly Detection in Diabetic Disease Using Multimodal Health Data. ICT4SD 2025.
35. Samreen, S. (2024, Dec). Intelligent Alcohol Consumption Detection Using Hyperparameter-Tuned MLP with Whale Optimization on Vowelized Dataset. 6th International Conference on Machine Learning, Image Processing, Network Security, and Data Sciences (MIND 2024).
36. Samreen, S. (2024, Nov). Artificial Neural Network based Predictive Model for Android Malware Detection using a Sine Cosine Algorithm for Feature Engineering. IEEE ICETAS 2024.
37. Samreen, S. (2024, Jul). Ensemble based Android Malware Detection using a Bio-inspired Meta-heuristic Feature Engineering Approach. ICCIMS 2024.
38. Samreen, S. (2024, Feb). Vision-based Sign Language Recognition and Multilingual Translation. BROADNETS 2024, Lecture Notes in Computer Science, vol. 602. Springer, Cham.
39. Samreen, S. (2023, Jul). Accurate Prediction of Stage of Hepatitis C Virus through a Stacking Ensemble. 4th International Conference on Data Science and Applications (ICDSA 2023).
40. Samreen, S. (2017, Dec). Countermeasures for Conflicting Behavior Attack in a Trust Management Framework for a Mobile Ad hoc Network. IEEE ICCIC 2017.
41. Samreen, S. (2017, Dec). Intrusion Detection System using Machine Learning: State of the Art Review. IEEE ICCIC 2017.
42. Samreen, S. (2017, Dec). Improved Recommendation Filtering Component Resilient to Trust Distortion Attacks in a MANET. ICIIT 2017.
43. Samreen, S. (2016, Oct). Performance of Path Allegiance Metric based routing protocol under varying Disbelief Threshold. IEEE I4C 2016.
44. Samreen, S. (2016, Oct). Refinement of Recommendation Trust for Accurate Detection of Dishonest Recommenders with On-off Attack Pattern. IEEE I4C 2016.
45. Samreen, S. (2016, Oct). Intelligent Network Intrusion Detection using Alternating Decision Trees. IEEE I4C 2016.
46. Samreen, S. (2016, Oct). Heart Disease Prediction System based on Hidden Naïve Bayes Classifier. IEEE I4C 2016.
47. Samreen, S. (2016, Sep). Impact of Trust Management Framework on Routing Protocol Performance. IEEE ICACDOT 2016.
48. Samreen, S. (2016, Jul). Survey on Data Plane Security Solutions in a MANET. ICIECE 2016.

49. Samreen, S. (2016, May). Enhanced RecommFilter Scheme for Efficient Detection of Dishonest Recommenders. ICCII 2016.
50. Samreen, S. (2016, Jan). Defense against On-Off Packet Droppers in a Trust Management Framework. IEEE IOTA 2016.
51. Samreen, S. (2015, Dec). Robustness to On-Off Dishonest Recommenders in a Trust Management Framework. IEEE ICCIC 2015.
52. Samreen, S. (2015, Aug). Data Plane Security through Trust-based Routing. ICICSIT 2015.
53. Samreen, S. (2015, Jul). A Novel Approach to Secure Routing through Path Allegiance Metric in MANET. IEEE CONECCT 2015.
54. Samreen, S. (2013, Feb). An Efficient Approach for the Detection of Node Misbehavior in a MANET. IEEE IACC 2013.
55. Samreen, S. (2009, Dec). Secured Routing and QoS using DSR in MANET. ICICT 2009.

Academic Service & Leadership

- Member of Scientific Committee, Self Study Report (NCAAA and ABET Accreditation), and Quality Unit at CCIS, Majmaah University.
- Reviewer for IEEE Wireless Communication Magazine.
- Session Chair at multiple IEEE International Conferences.
- Curriculum development for multiple courses including Big Data Analytics course in the M.Sc. Data Science Specialization.
- Organizer of multiple workshops on domains including Cybersecurity, Machine Learning, Generative AI and Bioinformatics.
- Speaker at various Invited Talks organized internationally.

Certifications & Professional Memberships

- Certified Ethical Hacker (CEH) – EC-Council
- Computer Hacking Forensic Investigator (CHFI) – EC-Council
- Machine Learning with Python; Deep Learning Fundamentals – Cognitive Class.ai
- Big Data Fundamentals; Hadoop Fundamentals – Big Data University
- Introduction to Generative AI – Google
- IELTS Band 9 (2019)
- Member, IEEE

Languages

Read, write, speak: Telugu, English, Urdu, Hindi;

Read and write: Arabic