Suman Bhunia

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Professional Experience

2020–current Assistant Professor, *Department of Computer Science and Software Engineering*.
Miami University, Oxford, Ohio USA

2018–2020 Postdoctoral Researcher, *Dept. of Computer Science and Engineering*.
Texas A&M University, College Station, USA

2017–2018 Postdoctoral Scholar, *Department of Computer Science*.
University of California, Davis, USA

2013–2017 Graduate Research Assistant & Instructor, *Department of Computer Science and Engineering*.
University of Nevada, Reno, USA

2011–2013 Graduate Research Assistant & Adjunct Lecturer, *Department of Computer Science*.
City University of New York, New York, USA

2010–2011 Senior Research Fellow, *Department of Electronics and Telecommunication Engineering*.
Jadavpur University, Kolkata, India

Education

2013–2017 Ph.D. in Computer Science, *University of Nevada, Reno, USA*, *Thesis:* Defense Against Intelligent Attacker in Cognitive Radio Networks, GPA:4.0/4.0.
Committee: Shamik Sengupta, Murat Yuksel, Mehmet Gunes, Sergiu Dascalu, Sankar Mukhopadhyay

2008–2010 Masters of Technology in Distributed and Mobile Computing, *Jadavpur University, Kolkata, India*, *Thesis:* Performance Evaluation of WiMAX Network in Aspect of Modulation and Coding Schemes and Hand-off using OPNET, GPA:8.39/10.
Committee: Dr. Iti Saha Misra and Dr. Salil K. Sanyal

2004–2008 Bachelor of Technology in Electronics and Communication Engineering, *West Bengal University of Technology*, Kolkata, India, GPA:8.36/10.

Awards and Fellowships

2018 Paper entitled "R-Drive: Resilient Data Storage and Sharing for Mobile Edge Clouds" won the best paper award at IEEE International Conference on Mobile AdHoc and Smart Systems (MASS), 2022, Denver, USA

2017 Outstanding Graduating Graduate Student, UNR (Awarded only one student in the University)

Research Interest

Network security, malicious node sensing/detection, cyber-physical security, wireless honeypot, jamming attack, spectrum fingerprinting, IoT Security

6G, Cognitive radio, dynamic spectrum access (DSA), cross-layer optimization, ad hoc, unmanned autonomous systems (UAS)

Peer Reviewed Publications

[1] S. Bhunia, M. Blackert, H. Deal, A. DePero, and A. Patra, "Analyzing The 2021 Kaseya Ransomware Attack: Combined Spearphishing Through SonicWall SSLVPN Vulnerability," *IET Information Security*, vol. 2025, no. 1, p. 1655307, 2025.

[2] M. Sagor, A. Haroon, R. Stoleru, S. Bhunia, A. Altaweel, M. Chao, L. Jin, M. Maurice, and R. Blalock, "DistressNet-NG: A Resilient Data Storage and Sharing Framework for Mobile Edge Computing in Cyber-Physical Systems," *ACM Trans. Cyber-Phys. Syst.*, vol. 8, no. 3, jul 2024, (Impact Factor: 2.3).

[3] X. Lai, H. Jiang, S. Bhunia, and H. Tran, "Reducing Latency in MEC Networks with Short-packet Communications," *IEEE Transactions on Vehicular Technology*, vol. 73, no. 2, pp. 3000–3004, 2024, (Impact Factor: 6.8).

[4] A. Altaweel, R. Stoleru, G. Gu, A. K. Maity, and S. Bhunia, "On Detecting Route Hijacking Attack in Opportunistic Mobile Networks," *IEEE Transactions on Dependable and Secure Computing*, vol. 20, no. 3, pp. 2516–2532, 2022, (Impact Factor: 7.3).

[5] A. Altaweel, C. Yang, R. Stoleru, S. Bhunia, M. Sagor, M. Maurice, and R. Blalock, "RSock: A resilient routing protocol for mobile Fog/Edge networks," *Ad Hoc Networks*, vol. 134, p. 102926, 2022, (Impact Factor: 4.8).

[6] G. Goodman, S. Bhunia, and P. Jamieson, "Benchmarking of LLM Based Generative AI for CSE Undergraduate Curriculum," in 2025 ASEE Annual Conference & Exposition, 2025.

[7] P. Jamieson, G. Ricco, B. Swanson, B. V. Scoy, and S. Bhunia, "LLM Prompting Methodology and Taxonomy to Benchmark our Engineering Curriculums," in 2025 ASEE Annual Conference & Exposition, 2025.

[8] D. M. Middendorf†, S. Bhunia, and A. Carvalho, "Lessons from the Field: Practical Frameworks for CTF Competition Success," in 2025 IEEE International systems Conference (IEEE SysCon 2025), Montreal, Canada, Apr. 2025, p. 8.

[9] P. A. Jamieson, O. Amaning-Yeboah, J. Butler†, D. Misirlioglu†, R. Taylor†, and S. Bhunia, "A Red/Blue Video Game for Hide&Seek Analysis for Hardware Trojans and the Seeker's Dilemma," in 2025 IEEE International systems Conference (IEEE SysCon 2025), Montreal, Canada, Apr. 2025, p. 7.

[10] P. Shrestha°◊, S. Bhunia, A. Carvalho, C. Anderson, and G. Lee, "A Case Study on Blockchainbased Anonymous Reviewer Incentive Token (BARIT)," in IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC) 2024, Kuching, Sarawak, Malaysia., Oct. 2024.

[11] A. Carvalho, L. Zavolokina, S. Bhunia, M. Chaudhary°◊, and N. Yoganathan, "Promoting Inclusiveness and Fairness through NFTs: The Case of Student-Athletes and NILs," in Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems, Hamburg, Germany, 2023, pp. 1–9, (acceptance rate=27.6%).

[12] S. Bhunia, R. Stoleru, A. Haroon, M. Sagor, A. Altaweel, M. Chao, M. K. Maurice, and R. Blalock, "EdgeKeeper: Resilient and Lightweight Coordination for Mobile Edge Clouds," in 2022 IEEE 19th International Conference on Mobile Ad Hoc and Smart Systems (MASS) (IEEE MASS 2022), Denver, USA, Oct. 2022, (acceptance rate=29.5%).

[13] M. Sagor, R. Stoleru, A. Haroon, S. Bhunia, M. Chao, A. Altaweel, M. K. Maurice, and R. Blalock, "R-Drive: Resilient Data Storage and Sharing for Mobile Edge Clouds," in 2022 IEEE 19th International Conference on Mobile Ad Hoc and Smart Systems (MASS) (IEEE MASS 2022), Denver, USA, Oct. 2022, (acceptance rate=29.5%), Won Best Paper Award.

[14] J. Vazquez-Estrada, S. Bhunia, M. Khan, Y. Qian†, and N. T. Huu†, "Neighbor Discovery in a LoRa Assisted Multi-Transceiver Free-Space-Optical Network," in IEEE Wireless Communications and Networking Conference (WCNC), 2022.

[15] A. Murthy, C. Green, R. Stoleru, S. Bhunia, C. Swanson, and T. Chaspari, "Machine learning-based irrigation control optimization," in International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (ACM BuildSys), 2019, pp. 213–222.

Academic and Professional Services

Editorial Boards

2022-2024 Associate Editor on the IET Wireless Sensor Systems Editorial Board (Impact Factor of 1.9)

Session Chair at International Conferences

2024 18th Annual IEEE International Systems Conference (SysCon), April 2024, Montreal, Canada.

2022 19th IEEE Annual Consumer Communications & Networking Conference (CCNC 2022), Las Vegas, USA, session: "WiP5: Autonomous vehicles"

2015 International Symposium on Cyberspace Safety and Security (IEEE CSS) 2015, New York, USA. Track - Active Defense Techniques and Systems