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

2018 Outstanding Thesis award from the Department of Computer Science, UNR

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

2016 Outstanding graduate student of Department of Computer Science, UNR

2011–2013 Two year City University of New york science fellowship

2010 Paper entitled "Study of OPNET and performance evaluation of WiMAX network under various terrain conditions in OPNET" won the best student paper award at the National Conference on Microwave and Communication NCMicroCom-2010

2008–2010 Two year full scholarship for M.Tech programme for qualifying Graduate Aptitude Test in Engineering, GATE (All-India basis)

Research Interest

Security	Network security, malicious node sensing/detection, cyber-physical security, wireless honeypot, jamming attack, spectrum fingerprinting, IoT Security
Wireless	6G, Cognitive radio, dynamic spectrum access (DSA), cross-layer optimization, ad hoc, unmanned autonomous systems (UAS)
Networking	QoS and resource management, Distributed Edge Computing, end-to-end performance, testbed implementation

Courses Taught

Miami University

CYB 435	Offensive Security (at MU)
CSE 470/570	Ethical Hacking (at MU)
CSE 467/567	Computer and Network Security (at MU)
CSE 274	Data Abstraction and Data Structures (at MU)
CSE 271	Object-Oriented Programming using Java (at MU)
CYB 134	Introduction to Cybersecurity (at MU)

University of Nevada, Reno

CS 446/646	Principles of Computer Operating Systems, (at UNR)
CS 201	Digital Design Laboratory (at UNR)

City College of New York

CS 332	Operating System Laboratory (at CUNY)
CS 102	Introduction to Programming (at CUNY)

Patent Invention Disclosure

[1] M. R. Khan, M. Yuksel, S. Bhunia, and S. Sengupta, *In-Band Line-of-Sight Discovery for Directional Full-Duplex Transceivers*, U.S. Provisional Patent Application 62/338,953

Peer Reviewed Publications

[§] indicates graduate student under direct supervision.

[†] indicates undergraduate student.

Journals

[1] S. Bhunia and A. Carvalho, "FATE: Fair, Affordable, Transparent, and Efficient Blockchain-Based Solutions for Healthcare Transportation ," *IEEE Transactions on Engineering Management*, Submitted for review.

[2] A. Carvalho, L. Zavolokina, S. Bhunia, and G. Schwabe, "Designing a Fair and Inclusive Digital Asset-Based NIL Marketplace," *Decision Support Systems*, Submitted for review.

[3] C. Anderson, P. Shrestha[§], S. Bhunia, A. Carvalho, and Y. G. Lee, "Blockchain-based token system for incentivizing peer review: A design science approach," *Decision Support Systems*, p. 114514, 2025.

[4] 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.

[5] 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).

[6] 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).

[7] 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).

[8] 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).

[9] S. Bhunia, M. Khan, M. Yuksel, and S. Sengupta, "In-band LOS discovery using highly directional transceivers," *Ad Hoc Networks*, vol. 91, p. 101875, 2019, (Impact Factor: 4.8).

[10] M. Khan, S. Bhunia, M. Yuksel, and L. Kane, "Line-of-Sight Discovery in 3D Using Highly Directional Transceivers," *IEEE Transactions on Mobile Computing*, vol. 18, no. 12, pp. 2885–2898, 2019, (Impact Factor: 6.1).

[11] S. Bhunia, E. Miles, S. Sengupta, and F. Vazquez-Abad, "CR-Honeynet: A Cognitive Radio Learning and Decoy Based Sustenance Mechanism to Avoid Intelligent Jammer," *IEEE Transactions on Cognitive Communications and Networking*, vol. 4, no. 3, pp. 567–581, 2018, (Impact Factor: 6.4).

[12] S. Bhunia, P. A. Regis, and S. Sengupta, "Distributed Adaptive Beam Nulling to Survive Against Jamming in 3D UAV Mesh Networks," *Elsevier Computer Networks*, vol. 137, pp. 83–97, 2018, (Impact Factor: 5.5).

[13] S. Mneimneh, S. Bhunia, S. Sengupta, and F. Vazquez-Abad, "A game-theoretic and stochastic survivability mechanism against induced attacks in cognitive radio networks," *Elsevier Pervasive and Mobile Computing*, vol. 40, pp. 577–592, 2017, (Impact Factor: 3.8).

[14] S. Bhunia, V. Behzadan, P. A. Regis, and S. Sengupta, "Adaptive Beam Nulling in Multihop Ad hoc Networks Against a Jammer in Motion," *Elsevier Computer Networks*, vol. 109, pp. 50 – 66, 2016, special issue on Recent Advances in Physical-Layer Security (Impact Factor: 3.0).

[15] S. Bhunia, S. Sengupta, and F. Vázquez-Abad, "Performance Analysis of CR-honeynet to Prevent Jamming Attack Through Stochastic Modeling," *Elsevier Pervasive and Mobile Computing*, vol. 21, pp. 133–149, 2015, (Impact Factor: 3.8).

[16] T. Chakraborty, A. Mukhopadhyay, S. Bhunia, I. Misra, and S. Sanyal, "An Optimization Technique for Improved VoIP Performance over Wireless LAN," *Journal of Networks*, vol. 7, no. 3, pp. 480–493, 2012, (Impact Factor: 1.2).

[17] S. Bhunia, I. Misra, S. Sanyal, and A. Kundu, "Performance study of mobile WiMAX network with changing scenarios under different modulation and coding," *Wiley International Journal of Communication Systems*, vol. 24, no. 8, pp. 1087–1104, 2011, (Impact Factor: 1.9).

[18] A. Kundu, I. Misra, S. Sanyal, and S. Bhunia, "VoIP performance over broadband wireless networks under static and mobile environments," *International Journal of Wireless & Mobile Networks (IJWMN) Vol*, vol. 2, no. 4, 2010, (20 citations).

Conference Proceedings

[1] J. Sharma[§], A. Carvalho, and S. Bhunia, "Provenance of AI-Generated images: A vector similarity and blockchain-based approach," in *2026 IEEE 23rd Consumer Communications & Networking Conference (CCNC)*, Las Vegas, USA, Jan. 2026, p. 4.

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

[3] 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.

[4] 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.

[5] 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.

[6] P. Shrestha[§], S. Bhunia, A. Carvalho, C. Anderson, and G. Lee, "A Case Study on Blockchain-based Anonymous Reviewer Incentive Token (BARIT)," in *IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC) 2024*, Kuching, Sarawak, Malaysia., Oct. 2024.

[7] A. G. Famera[§], R. M. Shukla, and S. Bhunia, "Cross-Device Federated Intrusion Detector for Early Stage Botnet Propagation in IoT," in *2024 IEEE International Systems Conference (SysCon) (IEEE SysCon 2024)*, Montreal, Canada, Apr. 2024, p. 8.

[8] S. Bhunia, Y. Qian[†], and M. R. Khan, "Electronically Steerable Mobile Optical-Wireless Mesh-Network," in *2024 IEEE International Systems Conference (SysCon) (IEEE SysCon 2024)*, Montreal, Canada, Apr. 2024, p. 6.

[9] S. Bhunia, O. Campbell[§], A. Carvalho, and V. Alluri, "SCeFSTA: Smart Contract enabled Fair, Secure, and Transparent Auction for Healthcare Transportation," in *2024 IEEE International Systems Conference (SysCon) (IEEE SysCon 2024)*, Montreal, Canada, Apr. 2024, p. 8.

[10] 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%).

[11] N. Hoang[†], P. Devabhakthini, R. M. Shukla, and S. Bhunia, "Network Coverage Improvement during Natural Disaster using Self-Organizing Maps," in *2023 3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME)*. Tenerife, Spain: IEEE, 2023, pp. 1–6, (acceptance rate=41%).

[12] N. Perry[§]and S. Bhunia, "Crossfire Attack Detection in 6G Networks with the Internet of Things (IoT)," in *IFIP International Internet Of Things (IFIP-IoT)*, Dallas, USA, Nov. 2023, (acceptance rate=NA).

[13] P. Jamieson, S. Bhunia, and D. M. Rao, "With ChatGPT, do we have to rewrite our learning objectives-CASE study in Cybersecurity," in *IEEE Frontiers in Education Conference (FIE)*, College Station, TX, Oct. 2023, (acceptance rate=88%).

[14] 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%).

[15] 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**.

[16] A. Prentosito†, M. Skoczen†, L. Kahrs†, and S. Bhunia, "Case Study on a Session Hijacking Attack: The 2021 CVS Health Data Breach," in *Mobile Web and Intelligent Information Systems (MobiWis)*, 2022, pp. 93–105, (acceptance rate=35%).

[17] J. Qian†, Z. Gan†, J. Zhang†, and S. Bhunia, "Analyzing SocialArks Data Leak-A Brute Force Web Login Attack," in *2022 4th International Conference on Computer Communication and the Internet (ICCCI)*. IEEE, 2022, pp. 21–27, (acceptance rate=50.7%).

[18] J. Nadjar†, Y. Liu†, J. Salinas†, and S. Bhunia, "A Case Study on the Multi-Vector Data Breach on Astoria," in *2022 4th International Conference on Computer Communication and the Internet (ICCCI)*. IEEE, 2022, pp. 51–57, (acceptance rate=50.7%).

[19] L. Rizkallah†, N. Potter†, K. Reed†, D. Reynolds†, M. Salman, and S. Bhunia, "Red toad, blue toad, hacked toad?" in *2022 IEEE World AI IoT Congress (AIIoT)*. IEEE, 2022, pp. 379–386, (acceptance rate=41.3%).

[20] C. Faircloth†, G. Hartzell†, N. Callahan†, and S. Bhunia, "A study on brute force attack on t-mobile leading to sim-hijacking and identity-theft," in *2022 IEEE World AI IoT Congress (AIIoT)*. IEEE, 2022, pp. 501–507, (acceptance rate=41.3%).

[21] D. Redding†, J. Ang†, and S. Bhunia, "A case study of massive API scrapping: Parler data breach after the capitol riot," in *7th International Conference on Smart and Sustainable Technologies 2022 (SpliTech 2022)*, Split, Bol, Croatia, Jul. 2022, (acceptance rate=48%).

[22] A. M. Pitney†, S. Penrod†, M. Foraker†, and S. Bhunia, "A systematic review of 2021 microsoft exchange data breach exploiting multiple vulnerabilities," in *7th International Conference on Smart and Sustainable Technologies 2022 (SpliTech 2022)*, Split, Bol, Croatia, Jul. 2022, (acceptance rate=48%).

[23] K. Kiesel†, T. G. Deep†, A. Flaherty†, and S. Bhunia, "Analyzing Multi-Vector ransomware attack on accellion file transfer appliance server," in *7th International Conference on Smart and Sustainable Technologies 2022 (SpliTech 2022)*, Split, Bol, Croatia, Jul. 2022, (acceptance rate=48%).

[24] E. Caroscio†, J. Paul†, J. Murray†, and S. Bhunia, "Analyzing the Ransomware Attack on DC Metropolitan Police Department by Babuk," in *IEEE International Systems Conference (SysCon)*, 2022, (acceptance rate=67.1%).

[25] 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.

[26] P. A. Regis, S. Bhunia, A. N. Patra, and S. Sengupta, "Deep-learning assisted Cross-Layer Routing in Multi-hop Wireless Network," in *2021 IEEE 7th World Forum on Internet of Things (WF-IoT)*. IEEE, 2021, pp. 35–39.

[27] B. Gibson†, S. Townes†, D. Lewis†, and S. Bhunia, "Vulnerability in massive api scraping: 2021 linkedin data breach," in *2021 International Conference on Computational Science and Computational Intelligence (CSCI)*. IEEE, 2021, pp. 777–782, (acceptance rate=24%).

[28] J. Huddleston†, P. Ji†, S. Bhunia, and J. Cogan†, "How VMware Exploits Contributed to SolarWinds Supply-chain Attack," in *2021 International Conference on Computational Science and Computational Intelligence (CSCI)*. IEEE, 2021, pp. 760–765, (acceptance rate=24%).

[29] M. H. N. Ba†, J. Bennett†, M. Gallagher†, and S. Bhunia, "A case study of credential stuffing attack: Canva data breach," in *2021 International Conference on Computational Science and Computational Intelligence (CSCI)*. IEEE, 2021, pp. 735–740, (acceptance rate=24%).

[30] J. Rudie†, Z. Katz†, S. Kuhbander†, and S. Bhunia, "Technical analysis of the nso group's pegasus spyware," in *2021 International Conference on Computational Science and Computational Intelligence (CSCI)*. IEEE, 2021, pp. 747–752, (acceptance rate=24%).

[31] 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.

[32] S. Bhunia and S. Sengupta, "Implementation of Interface Agility for Duplex Dynamic Spectrum Access Radio Using USRP," in *Military Communications Conference (MILCOM)*. doi: 10.1109/MILCOM.2017.8170844, 2017, pp. 762–767.

[33] S. Bhunia and S. Sengupt, "Distributed Adaptive Beam Nulling to Mitigate Jamming in 3D UAV Mesh Networks," in *2017 International Conference on Computing, Networking and Communications (ICNC)*. IEEE, 2017, (acceptance rate 29%).

[34] P. A. Regis, S. Bhunia, and S. Sengupta, "Enhancing Performance and Longevity of Multi-radio Multi-channel HetNets through Dynamic Path-assignment," in *2017 International Conference on Computing, Networking and Communications (ICNC)*. IEEE, 2017, (acceptance rate 29%).

[35] S. Bhunia, M. Khan, S. Sengupta, and M. Yuksel, "LOS Discovery for Highly Directional Full Duplex RF/FSO Transceivers," in *Military Communications Conference (MILCOM)*, 2016.

[36] M. Khan, S. Bhunia, M. Yuksel, and S. Sengupta, "LOS Discovery in 3D for Highly Directional Transceivers," in *Military Communications Conference (MILCOM)*, 2016.

[37] S. Bhunia, V. Behzadan, and S. Sengupta, "Enhancement of spectrum utilization in non-contiguous DSA with online defragmentation," in *Military Communications Conference, MILCOM*. IEEE, 2015, pp. 432–437.

[38] S. Bhunia, V. Behzadan, P. Regis, and S. Sengupta, "Performance of Adaptive Beam Nulling in Multihop Ad-Hoc Networks under Jamming," in *High Performance Computing and Communications (HPCC), 2015 IEEE 7th International Symposium on Cyberspace Safety and Security (CSS), 2015 IEEE 12th International Conferen on Embedded Software and Systems (ICESS), 2015 IEEE 17th International Conference on*. IEEE, 2015, pp. 1236–1241, (acceptance rate=30%).

[39] S. Bhunia, S. Sengupta, and F. Vazquez-Abad, "CR-Honeynet: A Learning & Decoy Based Sustenance Mechanism against Jamming Attack in CRN," in *Military Communications Conference (MILCOM), 2014 IEEE*. IEEE, 2014, pp. 1173–1180, (7 citations).

[40] S. Bhunia, X. Su, S. Sengupta, and F. Vázquez-Abad, "Stochastic model for Cognitive Radio Networks under jamming attacks and honeypot-based prevention," in 15^{th} *International Conference on Distributed Computing and Networking (ICDCN)*. Springer, Jan 2014, (10 citations).

[41] S. Das, S. Barman, and S. Bhunia, "Performance Analysis of IEEE 802.11 Rate Adaptation Algorithms Categorized Under Rate Controlling Parameters," in *Proceedings of the 2014 International Conference on Information and Communication Technology for Competitive Strategies*. ACM, 2014, p. 8.

[42] S. Bhunia and S. Sengupta, "Feasibility of channel hopping in jamming attack," *IEEE TCSIM Newsletter*, no. 19, pp. 2–5, 2013.

[43] E. Troja, K. Ezirim, and S. Bhunia, "Route aware dynamic channel scheduling and selection for multi-hop cognitive radio networks," in *IEEE* 78^{th} *Vehicular Technology Conference, VTC 2013-Fall*. IEEE, 2-5 September 2013.

[44] A. Mukhopadhyay, T. Chakraborty, S. Bhunia, I. Misra, and S. Sanyal, "Study of enhanced voip performance under congested wireless network scenarios," in *International Conference on Communication Systems and Networks (COMSNETS)*. IEEE, 2011, (9 citations).

[45] T. Chakraborty, A. Mukhopadhyay, S. Bhunia, I. Misra, and S. Sanyal, "Analysis and enhancement of qos in cognitive radio network for efficient voip performance," in *World Congress on Information and Communication Technologies (WICT)*. IEEE, 2011.

[46] A. Mukhopadhyay, T. Chakraborty, S. Bhunia, I. Misra, and S. Sanyal, "An adaptive jitter buffer playout algorithm for enhanced voip performance," in *International Conference on Advances in Computing and Information Technology (ACITY)*. Springer, 2011.

[47] T. Chakraborty, A. Mukhopadhyay, S. Bhunia, I. Misra, and S. Sanyal, "Optimizing voip call in diverse network scenarios using state-space search technique," in *International Conference on Advances in Computing and Information Technology (ACITY)*. Springer, 2011, pp. 231–242.

[48] A. Kundu, S. Bhunia, I. Misra, and S. Sanyal, "Comparison of voip performance over wimax, wlan and wimax-wlan integrated network using opnet," in *International Conference on Wireless and Mobile Networks*. Springer, 2010.

[49] S. Bhunia, A. Kundu, I. Misra, and S. Sanyal, "Reducing hand-off latency in wimax network using cross layer information," in *International Conference on Advances in Computer Engineering (ACE)*. IEEE, 2010, pp. 346–348.

Short Papers and Posters

[1] A. Carvalho and S. Bhunia, "Verifying AI Content Authenticity Using Decentralized Technologies," in *Thirtieth Americas Conference on Information Systems (AMCIS)*, Salt Lake City, USA, 2024.

[2] S. Bhunia, R. Stoleru, A. Haroon, M. Sagor, A. Altaweel, M. Chao, M. Maurice, and R. Blalock, "Poster: EdgeKeeper–Resilient and Lightweight Coordination for Mobile Edge Computing Systems," in *20th ACM International Conference on Mobile Systems, Applications, and Services (ACM MobiSys)*, 2022.

[3] J. Vazquez-Estrada[§], S. Bhunia, M. Khan, Y. Qian[†], and N. T. Huu[†], "Neighbor Discovery in a Multi-Transceiver Free-Space-Optical Ad Hoc Network," in *2022 IEEE 19th Annual Consumer Communications & Networking Conference (CCNC)*. IEEE, 2022, pp. 509–510.

Workshop Proceedings

[1] J. Hamlett, S. Bhunia, and P. Jamieson, "A proof-of-concept implementation of a glitch hardware trojan," in *Proceedings of the 2025 ACM Workshop on Secure and Trustworthy Cyber-physical Systems*, 2025, pp. 48–57.

[2] P. Jamieson, S. Bhunia, J. Chen, C. Lallo, B. Rile, R. Ferreira, G. A. Wilke, J. A. Nacif, A. Patooghy, and A.-H. A. Badawy, "Work-in-progress: Risc-v-dilemma-1: A hardware trojan benchmark based on seeker's dilemma approach," in *Proceedings of the 2025 ACM Workshop on Secure and Trustworthy Cyber-physical Systems*, 2025, pp. 58–62.

[3] S. Karki[†], E. Han[§], N. Mahmud[§], S. Bhunia, J. Femiani, and V. Raychoudhury, "OmniAcc: Personalized Accessibility Assistant Using Generative AI," in *Workshop on AI for Urban Planning, AAAI 2025's Workshop*, 2025.

[4] M. Chaudhary[§]and S. Bhunia, "Understanding Blockchain Trilemma, Causes and Solutions," in *International Workshop on Smart Data Advancements*. IEEE, 2024.

[5] J. Cao[†], A. Null[†], M. Stewart[†], S. Bhunia, and M. Salman, "Combatting the TrickBot Threat: Analysis, Impact, and Defensive Strategies in Cybersecurity," in *International Workshop on Emerging Technology in IoT*. IEEE, 2024.

[6] H. He[†], J. Self[†], K. French[†], S. Bhunia, M. Salman, and P. Regis, "Zerologon Explored: In-Depth Analysis and Mitigation Strategies for Microsoft's Critical Vulnerability," in *IEEE/ACM 23rd International Symposium on Cluster, Cloud and Internet Computing Workshops (CCGridW)*. IEEE, 2024.

[7] C. Stejskal[†], A. Perminov[†], A. Lester[†], S. Bhunia, M. Salman, and P. Regis, "Analyzing the Impact and Implications of COMB: A Comprehensive Study of 3 Billion Breached Credentials," in *IEEE/ACM 23rd International Symposium on Cluster, Cloud and Internet Computing Workshops (CCGridW)*. IEEE, 2024.

[8] J. Sorn[†], P. Carroll[†], Z. Pang[†], S. Bhunia, M. Salman, and P. Regis, "Exploring the CAM4 Data Breach: Security Vulnerabilities and Response Strategies," in *IEEE/ACM 23rd International Symposium on Cluster, Cloud and Internet Computing Workshops (CCGridW)*. IEEE, 2024.

[9] J. Beerman[†], D. Berent[†], Z. Falter[†], and S. Bhunia, "A Review of Colonial Pipeline Ransomware Attack," in *2023 IEEE/ACM 23rd International Symposium on Cluster, Cloud and Internet Computing Workshops (CCGridW)*. IEEE, 2023, pp. 8–15, (acceptance rate=NA).

[10] L. Sterle[†]and S. Bhunia, "On SolarWinds Orion Platform Security Breach," in *2021 IEEE SmartWorld, Ubiquitous Intelligence & Computing, Advanced & Trusted Computing, Scalable Computing & Communications, Internet of People and Smart City Innovation (SmartWorld/SCALCOM/UIC/ATC/IOP/SCI)*. IEEE, 2021, pp. 636–641.

[11] P. A. Regis, S. Bhunia, and S. Sengupta, "Implementation of 3D Obstacle Compliant Mobility Models for UAV Networks in Ns-3," in *Proceedings of the Workshop on Ns-3*, ser. WNS3 '16, 2016, pp. 124–131.

Student Advisement

Masters Thesis Supervisor

[1] Jitendra Sharma. Embedding-based Detection of AI-Generated Images: A Vector Similarity and Blockchain-backed Approach. Master's thesis, Miami University, 2025.

[2] Pratiksha Shrestha. BARIT: Blockchain-based Anonymous Reviewer Incentive Token. Master's thesis, Miami University, 2024.

[3] Owen Campbell. SCEFSTA: Smart Contract Enabled Fair, Secure, and Transparent Auction for Healthcare Transportation. Master's thesis, Miami University, 2024.

[4] Jessica Vazquez-Estrada. Secure Neighbor Discovery in Directional Wireless Ad Hoc Networks. Master's thesis, Miami University, 2023.

[5] Monu Chaudhary. Fairness in NIL-based NFT marketplace (NNM). Master's thesis, Miami University, 2022.

[6] Nicholas Perry. Neural Network-Based Crossfire Attack Detection in SDN-Enabled Cellular Networks. Master's thesis, Miami University, 2022.

[7] Angela Grace Famera. Cross-Device Federated Intrusion Detector for Early Stage Botnet Propagation. Master's thesis, Miami University, 2021.

Undergrad Student Researcher

2021–2022 Sam Kuhbander
2022–2022 Daniel Cruz
2020–2021 Sara Grimes
2020–2021 Nam Hoang
2021–2011 Huy Nguyen
2020–2021 Yicheng Qian
2020–2021 Ryan Schuerkamp
2020–2021 Tom Deep

Senior Capstone projects

2024-2025 Building Drag and Drop Survey Builder with Blockchain and IPFS
2023–2024 Catch the Flag Competition Platform Building
2023–2024 Hide and Seek Game for Attack/Defense Analysis
2022–2023 Close bid Auction using Blockchain for Ambulance Hiring
2022–2023 Peer to Peer Review System using Blockchain
2021–2022 Blockchain based First Responder Application
2020–2021 Distributed Storage for First Responders Network
2020–2021 Digital Triage Management Application

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 IEEEAnnual 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

Member of Technical Program Committee

SysCon IEEE International Systems Conference – 2025

ICDCN International Conference on Distributed Computing and Networking – 2022

MILCOM Military Communications Conference – 2017, 2018, 2019, 2021, 2022, 2023

ASONAM Advances in Social Networks Analysis and Mining – 2021

MASS IEEE International Conference on Mobile Ad-Hoc and Smart Systems – 2020

GameSec Conference on Decision and Game Theory for Security – 2017

ICIT International Conference on Information Technology – 2015, 2016

Selected Journal/Conference Reviewer

Journals Computer Communications (Elsevier), Physical Communication (Elsevier), Pervasive and Mobile Computing (Elsevier), Future Generation Computer Systems (Elsevier), International Journal of Communication Systems (Wiley), Wireless Communications and Mobile Computing (Wiley), International Journal of Distributed Sensor Networks (Hindawi)

Conferences IEEE INFOCOM, IEEE Globecom, IEEE ICC, IEEE MILCOM, ISCIT, IEEE WoWMoM

Leadership and Committee Experience

2021–present Advisor to Miami University Cybersecurity Club. Formed with students from my classes.

2021–present Member of Cybersecurity Committee at the department of CSE.

2014-2017 Elected thrice as a college of engineering representative at UNR Graduate Student Association.

2015-2017 Elected twice as the chair of the clubs and organizations committee of UNR GSA

2014-2015 Founding vice president of Computer Science Graduate Student Club, UNR

2013-2015 Elected twice as the vice president of Indian Student Organization, UNR

Professional Membership

IEEE Senior Member since 2021, Member since 2010

ACM Member since 2021