Ramviyas **Nattanmai Parasuraman**

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Personal Statement

- I passionately research and teach Robotics, with expertise in multi-robot control, communication, collaboration, and coordination aspects.
- I'm more of an experimentalist and love to do hands-on real-world implementations, grounded on strong theoretical framework.
- My vision is to capacitate autonomous heterogeneous robotic vehicles with intelligent, resilient and robust coordination mechanisms through devising advanced communication and wireless sensing methods.

Research Interests

- Networked Multi-Robot Systems
- Search, Rescue, and Field Robotics
- Robotic Sensor Networks
- Human-Robot Interaction/Interfaces
- Swarm Robotics
- Assistive Robotic Technologies
- Robotics in Nuclear Facilities

Education

11/2011 – 10/2014	Ph.D. in Robotics and Automation **UPM** - Universidad Politécnica de Madrid (Technical University of Madrid), Madrid, Spain
07/2008 – 05/2010	Masters of Technology (M.Tech) in Instrument Technology **IIT-D** - Indian Institute of Technology Delhi, New Delhi, India
03/2010 – 05/2010	M.Sc. Exchange Student in Electrical Engineering **EPFL** - École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland
08/2004 – 05/2008	Bachelor of Engineering (B.E) in Electronics and Instrumentation **TCE** - Thiagarajar College of Engineering (Anna University), Madurai, India

Work Experience

2018 - Present — Assistant Professor, UGA, Athens, GA, USA
- Conduct research, teaching, and supervision in the Department of Computer Science at UGA.
- Directing the Heterogeneous Robotics (*HeRo*) Research Lab at UGA.

Multi-Robot Systems | Networked Robots | Rescue Robotics | Human-Robot Interfaces

2016 - 2018 — Postdoctoral Research Associate, Purdue University, West Lafayette, USA
- Involved in the research, teaching, and mentoring activities in the SMART lab with Prof. Byung-Cheol Min.
- Contributing to the NSF/RoSeHub project.
- Performed independent research in Networked Robots and Assistive Technologies.

Networked Robots | Multi-Robot Coordination | Consensus/Rendezvous | Unmanned Surface Vehicles

2014 - 2016 — Postdoctoral Researcher and Teacher, KTH Royal Institute of Technology, Stockholm, Sweden
- Performed research in robust communications for field robots with Prof. Petter Ögren.
- Teacher and Course Responsible for the course EL2310 - Scientific Programming (Fall 2015, Fall 2015).
- Supervised masters students and mentored Ph.D. students.
- Involved in two European research projects (EU-FP7) TRADR and RECONFIG.

Machine Learning | Urban Search and Rescue Robots (USAR) | Intelligent Teleoperation | Human-Robot Interfaces

2011 - 2014 — Fellow (Researcher), CERN - European Organization for Nuclear Research, Geneva, Switzerland
- Conducted research in wireless communications for mobile robots used in autonomous radiation survey at CERN facilities such as the Large Hadron Collider (LHC).
- Involved in an EU doctoral research training network (EU-FP7) PURESAFE, supervised by Prof. Manuel Ferre.
- Lead a project in developing an energy management system for a robotic train in the LHC and SPS facilities.

Robots in Nuclear/Scientific Facilities | Wireless Communications | Relay Robots | Teleoperation Interface

2010 - 2011 — Associate Applications Engineer, Oracle Corp., Bangalore, India
- Applications developer in the Peoplesoft Human Resource Management Systems (HRMS) group.

Peoplesoft Tools | Oracle SQL | Human Capital Management (HCM)

Funding/Grants Awarded

- Lead PI of a multi-institute **Research Grant** on a collaborative project titled "Collaborative Research: CPS: Medium: AI-driven Cyber-Physical Heterogeneous Systems for Precision Poultry Farming" from the USDA National Institute for Food and Agriculture (NIFA) (2024-2027). Total Project: $1M.
- PI of a **Research Grant** on the project titled "Cooperative Multi-Agent Systems" from the U.S. Army DCIST-Cooperative Research Agreement (CRA) (2023-2026). Total Project: $1.68M.
- Co-PI of a **Research Grant** on the project titled "Test & Evaluation for Soldier-Machine Decision-Making Systems" from the U.S. Army DEVCOM Data Analysis Center (2022-2027). Total Project: $4.43M.
- PI of an **E-mobility Seed Grant** for the project titled "Smart and Collaborative E-Mobility Testbed" funded by the UGA College of Engineering and the Office of Research (2023-2024). Amount: $61K.
- Co-PI of an **E-mobility Seed Grant** for the project titled "Data-driven Ultra-fast, Reliable, and Low-latency Wireless Communication for E- Vehicles" funded by the UGA College of Engineering and the Office of Research (2023-2024). Amount: $61K.
- Co-PI of a **IIPA Seed Grant** for the project titled "EggPicker: A mobile robotic system for identifying, localizing, and collecting floor eggs in cage-free hen housing environments" funded by the UGA Institute of Integrative Precision Agriculture (2023-2024). Amount: $30K.
- PI of a **Learning Technology Grant** from UGA (2019-2020). Amount: $25k.
- Received Cloud Platform **Education Grant** from Google (2019).
- PI of UGA-University of Liverpool **Faculty Research Exchange** Visit Grant (2019).
- Postdoctoral **Travel Grant**, Purdue University (2017, 2018).
- Marie-Skłodowska-Curie Actions - **Early Career Research Fellowship Grant** from the European Commission (20011-2014).

Honors, Awards, and Achievements

- Recipient of the **Faculty Research Excellence Award** from School of Computing at UGA (2025).
- Recipient of the **CURO Faculty Mentoring Award** from UGA Honors College (2024).
- Awarded **Open Science Faculty Fellowship** by NSF Open Science Alliance Project (2023).
- Nominated for the **Best Paper Award** at DARS 2022 Conference.
- Awarded **Marie-Sklodowska-Curie** Research Fellowship (2011-2014).
- Awarded **IITD-EPFL Exchange** Fellowship (2010).
- Awarded DST-MHRD India **GATE** Scholarship (2008-2010).
- **National Finalist** in Motorola India Scholar Program (2008) and Cadence India Design Contest (2009).
- Awarded **Gold Medal** for *Best Outgoing Student Excellence* (out of 750+ students) at TCE (2008).
- Awarded IIT-M (Indian Institute of Technology Madras) **Summer Fellowship** (2007).

Publications and Presentations

Google Scholar: `https://scholar.google.com/citations?user=gmhcslQAAAAJ&hl=en`

Journal Articles

[1] Sanjay Sarma OV, Ramviyas Parasuraman, and Ramana Pidaparti. "IKT-BT: Indirect Knowledge Transfer Behavior Tree Framework for Multirobot Systems Through Communication Eavesdropping." In: *IEEE Transactions on Cybernetics* (2025). Early Access. doi: 10.1109/TCYB.2025.3560564.

[2] Nazish Tahir and Ramviyas Parasuraman. "Edge Computing and its Application in Robotics: A Survey." In: *Journal of Sensor and Actuator Networks* 14.4 (2025). doi: 10.3390/jsan14040065.

[3] He Yang et al. "Real-world Cyber Security Demonstration for Networked Electric Drives." In: *IEEE Journal of Emerging and Selected Topics in Power Electronics* (2025). Early Access, pp. 1–1. doi: 10.1109/JESTPE.2025.3550830.

[4] Shushan Wu et al. "Online Adaptive Anomaly Detection in Networked Electrical Machines by Adaptive Enveloped Singular Spectrum Transformation." In: *IEEE Internet of Things Journal* 12.6 (2025), pp. 6457–6464. doi: 10.1109/JIOT.2024.3476268.

[5] Ehsan Latif and Ramviyas Parasuraman. "Communication-Efficient Multi-Robot Exploration Using Coverage-biased Distributed Q-Learning." In: *IEEE Robotics and Automation Letters* 9 (3 Mar. 2024), pp. 2622–2629. doi: 10.1109/LRA.2024.3358095.

[6] Qin Yang and Ramviyas Parasuraman. "Bayesian Strategy Networks Based Soft Actor-Critic Learning." In: *ACM Trans. Intell. Syst. Technol.* 15.3 (Mar. 2024). doi: 10.1145/3643862.

[7] Ehsan Latif and Ramviyas Parasuraman. "Instantaneous Wireless Robotic Node Localization Using Collaborative Direction of Arrival." In: *IEEE Internet of Things Journal* 11 (2 Jan. 2024), pp. 2783–2795. doi: 10.1109/JIOT.2023.3296334.

[8] Aiman Munir and Ramviyas Parasuraman. "Exploration–Exploitation Tradeoff in the Adaptive Information Sampling of Unknown Spatial Fields with Mobile Robots." In: *Sensors* 23.23 (2023), p. 9600. doi: 10.3390/s23239600.

[9] Sanjay Sarma OV, Ramviyas Parasuraman, and Ramana Pidaparti. "KT-BT: A Framework for Knowledge Transfer Through Behavior Trees in Multi-Robot Systems." In: *IEEE Transactions of Robotics* 39 (5 2023), pp. 4114–4130. doi: 10.1109/TRO.2023.3290449.

[10] Ehsan Latif and Ramviyas Parasuraman. "On the Intersection of Computational Geometry Algorithms with Mobile Robot Path Planning." In: *Algorithms* 16.11 (2023). **Featured in the Cover of Issue**, p. 498. doi: 10.3390/a16110498.

[11] Ramviyas Parasuraman, Byung-Cheol Min, and Petter Ogren. “Rapid Prediction of Network Quality in Mobile Robots.” In: *Adhoc Networks* 138 (Jan. 2023). doi: 10.1016/j.adhoc.2022.103014.
[12] Nazish Tahir and Ramviyas Parasuraman. “Analog Twin Framework for Human and AI Supervisory Control and Teleoperation of Robots.” In: *IEEE Transactions on Systems, Man, and Cybernetics: Systems* 53.5 (2023), pp. 2616–2628. doi: 10.1109/TSMC.2022.3216206.
[13] Ramviyas Parasuraman, Jonghoek Kim, Shaocheng Luo, and Byung-Cheol Min. “Multipoint Rendezvous in Multirobot Systems.” In: *IEEE Transactions on Cybernetics* 50.1 (2020). doi: 10.1109/TCYB.2018.2868870.
[14] Min Ku Kim and Ramviyas Parasuraman and Liu Wang and Yeonsoo Park and Bongjoong Kim and Seung Jun Lee and Nanshu Lu and Byung-Cheol Min and Chi Hwan Lee. “Soft-packaged sensory glove system for human-like natural interaction and control of prosthetic hands.” In: *NPG Asia Material (Nature)* 11.43 (Aug. 2019). doi: 10.1038/s41427-019-0143-9.
[15] Michele Colledanchise, Ramviyas Parasuraman, and Petter Ögren. “Learning of Behavior Trees for Autonomous Agents.” In: *Transactions on Games* 11.2 (June 2019). doi: 10.1109/TG.2018.2816806.
[16] Jonghoek Kim, Shaocheng Luo, Ramviyas Parasuraman, Jun Han Bae, Eric T Matson, and Byung-Cheol Min. “Multi-robot Rendezvous Based on Bearing-aided Hierarchical Tracking of Network Topology.” In: *Adhoc Networks* 86 (Apr. 2019), pp. 131–143. doi: 10.1016/j.adhoc.2018.11.004.
[17] Mohamed Haseeb and Ramviyas Parasuraman. “Wisture: Touch-less Hand Gesture Classification in Unmodified Smartphones Using Wi-Fi Signals.” In: *IEEE Sensors* 19.1 (Jan. 2019). doi: 10.1109/JSEN.2018.2876448.
[18] Danilo Tardioli, Ramviyas Parasuraman, and Petter Ögren. “Pound: A multi-master ROS node for Reducing Delay and Jitter in Wireless Multi-Robot Networks.” In: *Robotics and Autonomous Systems* 111 (Jan. 2019), pp. 73–87. doi: 10.1016/j.robot.2018.10.009.
[19] Ramviyas Parasuraman and Byung-Cheol Min. “Special issue on Assistive Robotics (Editorial).” In: *Technologies* 6.4 (Oct. 2018). doi: 10.3390/technologies6040095.
[20] Byung-Cheol Min, Ramviyas Parasuraman, Sangjun Lee, Jin-Woo Jung, and Eric T Matson. “A Directional Antenna based Leader-Follower Relay System for End-to-End Robot Communications.” In: *Robotics and Autonomous Systems* 101 (Mar. 2018), pp. 57–73. doi: 10.1016/j.robot.2017.11.013.
[21] Ramviyas Parasuraman, Sergio Caccamo, Fredrik Båberg, Petter Ögren, and Mark Neerincx. “A New UGV Teleoperation Interface for Improved Awareness of Network Connectivity and Physical Surroundings.” In: *Journal of Human Robot Interaction (Transactions on Human Robot Interaction)* 6.3 (Dec. 2017), pp. 48–70. doi: 10.5898/JHRI.6.3.Parasuraman.
[22] Ramviyas Parasuraman, Thomas Fabry, Luca Molinari, Keith Kershaw, Mario Di Castro, Alessandro Masi, and Manuel Ferre. “A multi-sensor RSS spatial sensing-based robust stochastic optimization algorithm for enhanced wireless tethering.” In: *Sensors* 14.12 (2014), pp. 23970–24003. doi: 10.3390/s141223970.
[23] Ramviyas Parasuraman, Keith Kershaw, and Manuel Ferre. “Experimental investigation of radio signal propagation in scientific facilities for telerobotic applications.” In: *Int. J. of Advanced Robotic Systems* 10.10:364 (2013), pp. 1–11. doi: 10.5772/56847.

Conference Papers (In Proceedings)

[1] Sai Krishna Ghanta and Ramviyas Parasuraman. “MGPRL: Distributed Multi-Gaussian Processes for Wi-Fi-based Multi-Robot Relative Localization in Large Indoor Environments.” In: *2025 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2025)*. Accepted. In Press. Oct. 2025.
[2] Tohid Tasooji and Ramviyas Parasuraman. “Distributed Fault-Tolerant Multi-Robot Cooperative Localization in Adversarial Environments.” In: *2025 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2025)*. Accepted. In Press. Oct. 2025.
[3] Tyson Jordan, Pranav Pandey, Prashant Doshi, Ramviyas Parasuraman, and Adam Goodie. “Analyzing Human Perceptions of a MEDEVAC Robot in a Simulated Evacuation Scenario.” In: *2025 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2025)*. Accepted. In Press. Oct. 2025.
[4] Pranav Kumar Pandey, Ramviyas Parasuraman, and Prashant Doshi. “Integrating Perceptions: A Human-Centered Physical Safety Model for Human-Robot Interaction.” In: *34th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*. Accepted. In Press. Aug. 2025.
[5] Michael Starks and Ramviyas Parasuraman. “GMF: Gravitational Mass-Force Framework for Parametric Multi-Level Coordination in Multi-Robot and Swarm Robotic Systems.” In: *2025 IEEE International Conference on Robotics and Automation (ICRA)*. In Press. May 2025.
[6] Leszek Gąsieniec, Łukasz Kuszner, Ehsan Latif, Parasuraman, Ramviyas, Paul Spirakis, and Grzegorz Stachowiak. “Brief Announcement: Anonymous Distributed Localisation via Spatial Population Protocols.” In: *4th Symposium on Algorithmic Foundations of Dynamic Networks (SAND 2025)*. 2025, pp. 19–1. doi: 10.4230/LIPIcs.SAND.2025.19.
[7] Aiman Munir, Ayan Dutta, and Ramviyas Parasuraman. “Energy-Aware Coverage Planning for Heterogeneous Multi-Robot System.” In: *The 17th International Symposium on Distributed Autonomous Robotic Systems (DARS 2024)*. In Press. Oct. 2024.
[8] Aiman Munir, Ehsan Latif, and Ramviyas Parasuraman. “Anchor-Oriented Localized Voronoi Partitioning for GPS-denied Multi-Robot Coverage.” In: *2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2024)*. Oct. 2024, pp. 3395–3402. doi: 10.1109/IROS58592.2024.10802222.
[9] Siva Krishna Ravipati, Ehsan Latif, Suchendra Bhandarkar, and Ramviyas Parasuraman. “Object-Oriented Material Classification and 3D Clustering for Improved Semantic Perception and Mapping in Mobile Robots.” In: *2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2024)*. Oct. 2024, pp. 9729–9736. doi: 10.1109/IROS58592.2024.10801936.
[10] Ehsan Latif and Ramviyas Parasuraman. “HGP-RL: Distributed Hierarchical Gaussian Processes for Wi-Fi-based Relative Localization in Multi-Robot Systems.” In: *2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2024)*. Oct. 2024, pp. 3387–3394. doi: 10.1109/IROS58592.2024.10802653.
[11] Aiman Munir, Ramviyas Parasuraman, Jine Ye, and WenZhan Song. “Route Planning for Electric Vehicles with Charging Constraints.” In: *2024 IEEE 100th Vehicular Technology Conference (VTC2024-Fall)*. Oct. 2024. doi: 10.1109/VTC2024-Fall63153.2024.10757558.
[12] Nazish Tahir, Haijian Sun, and Ramviyas Parasuraman. “Communication-Aware Consistent Edge Selection for Mobile Users and Autonomous Vehicles.” In: *2024 IEEE 100th Vehicular Technology Conference (VTC2024-Fall)*. Oct. 2024. doi: 10.1109/VTC2024-Fall63153.2024.10757784.

[13] Ehsan Latif, Ramviyas Parasuraman, and Xiaoming Zhai. "PhysicsAssistant: An LLM-Powered Interactive Learning Robot for Physics Lab Investigations." In: *2024 IEEE International Conference on Robot and Human Interactive Communication (RO-MAN 2024)*. Pasadena, CA, USA, Aug. 2024, pp. 864–871. doi: 10.1109/RO-MAN60168.2024.10731312.

[14] Lihao Zhang, Haijian Sun, Jin Sun, Ramviyas Parasuraman, Yinghui Ye, and Rose Qingyang Hu. "Map2Schedule: An End-to-End Link Scheduling Method for Urban V2V Communications." In: *2024 IEEE International Conference on Communications (ICC)*. Pasadena, CA, USA, June 2024, pp. 1005–1010. doi: 10.1109/ICC51166.2024.10622509.

[15] Qin Yang and Ramviyas Parasuraman. "Bayesian Soft Actor-Critic: A Directed Acyclic Strategy Graph Based Deep Reinforcement Learning." In: *Proceedings of the 39th ACM/SIGAPP Symposium on Applied Computing*. SAC '24. Avila, Spain, Apr. 2024, pp. 646–648. doi: 10.1145/3605098.3636113.

[16] Nazish Tahir and Ramviyas Parasuraman. "Utility AI for Dynamic Task Offloading in the Multi-Edge Infrastructure." In: *2023 Seventh IEEE International Conference on Robotic Computing (IRC)*. Dec. 2023, pp. 331–338. doi: 10.1109/IRC59093.2023.00060.

[17] Nazish Tahir and Ramviyas Parasuraman. "Consensus-based Resource Scheduling for Collaborative Multi-Robot Tasks." In: *2023 Seventh IEEE International Conference on Robotic Computing (IRC)*. Dec. 2023, pp. 323–330. doi: 10.1109/IRC59093.2023.00059.

[18] Ehsan Latif and Ramviyas Parasuraman. "SEAL: Simultaneous Exploration and Localization in Multi-Robot Systems." In: *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2023)*. Oct. 2023. doi: 10.1109/IROS55552.2023.10342157.

[19] Ehsan Latif, WenZhan Song, and Ramviyas Parasuraman. "Communication-Efficient Reinforcement Learning in Swarm Robotic Networks for Maze Exploration." In: *IEEE International Conference on Computer Communications (INFOCOM) Workshops 2023*. May 2023. doi: 10.1109/INFOCOMWKSHPS57453.2023.10226167.

[20] Nazish Tahir and Ramviyas Parasuraman. "Mobile Robot Control and Autonomy Through Collaborative Twin." In: *The 21st International Conference on Pervasive Computing and Communications (PerCom) Workshops 2023*. Mar. 2023. doi: 10.1109/PerComWorkshops56833.2023.10150325.

[21] Qin Yang and Ramviyas Parasuraman. "A hierarchical game-theoretic decision-making for cooperative multiagent systems under the presence of adversarial agents." In: *The 38th ACM/SIGAPP Symposium On Applied Computing (SAC)*. Mar. 2023. doi: 10.1145/3555776.3577642.

[22] Qin Yang and Ramviyas Parasuraman. "A Strategy-Oriented Bayesian Soft Actor-Critic Model." In: *Procedia Computer Science*. ANT 2023 Conference. Mar. 2023. doi: 10.1016/j.procs.2023.03.071.

[23] Sanjay Sarma Oruganti Venkata, Cameron Ardoin, Israr M. Ibrahim, Ramviyas Parasuraman, and Ramana M Pidaparti. "Systems Design Concepts mimicking Bio-inspired Self-assembly." In: *9th International Conference on Research Into Design (ICoRD)*. Springer, Jan. 2023. doi: 10.1007/978-981-99-0428-0_31.

[24] Michael Starks, Aryan Gupta, Sanjay Sarma, and Ramviyas Parasuraman. "HeRoSwarm: Fully-Capable Miniature Swarm Robot Hardware Design With Open-Source ROS Support." In: *2023 IEEE/SICE International Symposium on System Integrations (SII 2023)*. Jan. 2023. doi: 10.1109/SII55687.2023.10039174.

[25] Ehsan Latif and Ramviyas Parasuraman. "DGORL: Distributed Graph Optimization based Relative Localization of Multi-Robot Systems." In: *The 16th International Symposium on Distributed Autonomous Robotic Systems (DARS 2022)*. **Finalist for Best Paper Award**. Nov. 2022. doi: 10.1007/978-3-031-51497-5_18.

[26] Pranav Pandey and Ramviyas Parasuraman. "Empirical Analysis of Bi-directional Wi-Fi Network Performance on Mobile Robots in Indoor Environments." In: *2022 IEEE 95th Vehicular Technology Conference: (VTC 2022)*. June 2022, pp. 1–7. doi: 10.1109/VTC2022-Spring54318.2022.9860438.

[27] Qin Yang and Ramviyas Parasuraman. "Game-theoretic Utility Tree for Multi-Robot Cooperative Pursuit Strategy." In: *54th International Symposium on Robotics; ISR Europe 2022*. June 2022, pp. 1–7. url: https://ieeexplore.ieee.org/document/9861828.

[28] Ehsan Latif and Ramviyas Parasuraman. "Multi-Robot Synergistic Localization in Dynamic Environments." In: *54th International Symposium on Robotics; ISR Europe 2022*. June 2022, pp. 1–8. url: https://ieeexplore.ieee.org/document/9861805.

[29] Ehsan Latif, Yikang Gui, Aiman Munir, and Ramviyas Parasuraman. "Energy-Aware Multi-Robot Task Allocation in Persistent Tasks." In: *The 5th International Symposium on Swarm Behavior and Bio-Inspired Robotics (SWARM)*. Jan. 2022. url: https://arxiv.org/pdf/2112.15282.pdf.

[30] Yikang Gui, Ehsan Latif, and Ramviyas Parasuraman. "Message Expiration-Based Distributed Multi-Robot Task Management." In: *The 5th International Symposium on Swarm Behavior and Bio-Inspired Robotics (SWARM)*. Jan. 2022. url: https://arxiv.org/abs/2201.02750.

[31] Sanjay Sarma OV, Ramviyas Parasuraman, and Ramana Pidaparti. "A study on the ephemeral nature of knowledge shared between multi-agent and swarm systems through behavior trees." In: *The 5th International Symposium on Swarm Behavior and Bio-Inspired Robotics (SWARM)*. Jan. 2022. url: https://arxiv.org/pdf/2112.15282.

[32] Qin Yang and Ramviyas Parasuraman. "How Can Robots Trust Each Other For Better Cooperation? A Relative Needs Entropy Based Robot-Robot Trust Assessment Models." In: *IEEE SMC 2021 International Conference on Systems, Man, and Cybernetics*. Oct. 2021. doi: 10.1109/SMC52423.2021.9659187.

[33] Qin Yang and Ramviyas Parasuraman. "Needs-driven Heterogeneous Multi-Robot Cooperation in Rescue Missions." In: *2020 IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR 2020)*. Nov. 2020. doi: 10.1109/SSRR50563.2020.9292570.

[34] Sanjay Sarma Oruganti Venkata, Ramviyas Parasuraman, and Ramana Pidaparti. "Impact of Heterogeneity in Multi-Robot Systems on Collective Behaviors Studied Using a Search and Rescue Problem." In: *2020 IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR 2020)*. Nov. 2020. doi: 10.1109/SSRR50563.2020.9292588.

[35] Qin Yang and Ramviyas Parasuraman. "Hierarchical Needs Based Self-Adaptive Framework For Cooperative Multi-Robot System." In: *IEEE SMC 2020 International Conference on Systems, Man, and Cybernetics*. Oct. 2020. doi: 10.1109/SMC42975.2020.9283249.

[36] Shyam Sundar Kannan, Wonse Jo, Ramviyas Parasuraman, and Byung-Cheol Min. "Material Mapping in Unknown Environments using Tapping Sound." In: *2020 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2020)*. Oct. 2020. doi: 10.1109/IROS45743.2020.9341346.

[37] Ravi Parashar and Ramviyas Parasuraman. "Particle Filter Based Localization of Access Points Using Direction of Arrival on Mobile Robots." In: *The 2020 IEEE 92nd Vehicular Technology Conference (VTC 2020)*. Oct. 2020. doi: 10.1109/VTC2020-Fall49728.2020.9348813.

[38] Qin Yang, Zhiwei Luo, Wenzhan Song, and Ramviyas Parasuraman. "Self-Reactive Planning of Multi-Robots with Dynamic Task Assignments." In: *Int. Symp. on Multi Robot Systems (MRS)*. (Rutgers, NJ, USA). Aug. 2019. doi: 10.1109/MRS.2019.8901075.

[39] Ramviyas Parasuraman and Byung-Cheol Min. “Consensus Control of Distributed Robots using Direction of Arrival of Wireless Signals.” In: *Int. Symp. on Distributed Autonomous Robotic Systems (DARS)*. (Boulder, CO, USA). Oct. 2018. doi: 10.1007/978-3-030-05816-6_2.

[40] Petter Ogren Ramviyas Parasuraman and Byung-Cheol Min. “Kalman filter based spatial prediction of wireless connectivity for autonomous robots and connected vehicles.” In: *2018 IEEE 88th Vehicular Technology Conference (VTC 2018)*. (Chicago, IL, USA). Aug. 2018. doi: 10.1109/VTCFall.2018.8690611.

[41] Yeonju Oh, Ramviyas Parasuraman, Tim McGraw, and Byung-Cheol Min. “360 VR Based Robot Teleoperation Interface for Virtual Tour.” In: *International Workshop on Virtual, Augmented and Mixed Reality for Human-Robot Interaction*. (Chicago, IL, USA). Human-Robot Interaction Conference. Mar. 2018. doi: https://web.ics.purdue.edu/~minb/pub/hri2018.pdf.

[42] Sergio Caccamo, Ramviyas Parasuraman, Luigi Freda, Mario Gianni, and Petter Ögren. “RCAMP: A Resilient Communication-Aware Motion Planner for Mobile Robots with Autonomous Repair of Wireless Connectivity.” In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2017, pp. 2010–2017. doi: 10.1109/IROS.2017.8206020.

[43] Sergio Caccamo, Ramviyas Parasuraman, Fredrik Båberg, and Petter Ögren. “Extending a UGV teleoperation FLC interface with wireless network connectivity information.” In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2015, pp. 4305–4312. doi: 10.1109/IROS.2015.7353987.

[44] Ramviyas Parasuraman, Prithvi Pagala, Keith Kershaw, and Manuel Ferre. “Model Based On-Line Energy Prediction System for Semi-Autonomous Mobile Robots.” In: *International Conference on Intelligent Systems Modelling & Simulation (ISMS), Langkawi, Malaysia*. Vol. 5. ISBN 978-1-4799-3857-5. IEEE. 2014, pp. 411–416. doi: 10.1109/ISMS.2014.76.

[45] Alexander Owen-Hill, Ramviyas Parasuraman, and Manuel Ferre. “Haptic teleoperation of mobile robots for augmentation of operator perception in environments with low-wireless signal.” In: *IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR)*. 2013, pp. 2374–3247. doi: 10.1109/SSRR.2013.6719329.

[46] Ramviyas Parasuraman, Thomas Fabry, Keith Kershaw, and Manuel Ferre. “Spatial sampling methods for improved communication for wireless relay robots.” In: *IEEE International Conference on Connected Vehicles and Expo (ICCVE)*. 2013, pp. 874–880. doi: 10.1109/ICCVE.2013.6799919.

[47] Ramviyas Parasuraman, Prithvi Pagala, Keith Kershaw, and Manuel Ferre. “Energy management module for mobile robots in hostile environments.” In: *Towards Autonomous Robotic Systems (TAROS)*. Springer Berlin Heidelberg. 2012, pp. 430–431. doi: 10.1007/978-3-642-32527-4_45.

Conference/Workshop Short Papers/Presentations (Lightly-Reviewed)

[1] Pranav Pandey, Ramviyas Parasuraman, and Prashant Doshi. “GSI- A Proxemics-Guided Generalized Safety Metric For Evaluating Safety in Social Navigation Context.” In: *IEEE ICRA 2025 Workshop on Advances in Social Navigation: Planning, HRI and Beyond*. **Received Best Poster Award**. May 2025.

[2] Swaraj Nistane, Tohid Tasooji, and Ramviyas Parasuraman. “H-Cov: Multi-UAV Sensor Coverage with Altitude Optimization for Target Tracking.” In: *IEEE ICRA 2025 Workshop on 25 YEARS OF AERIAL ROBOTICS: CHALLENGES AND OPPORTUNITIES*. May 2025.

[3] Sai Krishna Ghanta and Ramviyas Parasuraman. “SPACE: 3D Spatial Co-operation and Exploration Framework for Robust Mapping and Coverage with Multi-Robot Systems.” In: *IEEE ICRA 2025 Workshop on Block by Block Collaborative Strategies for Multi-agent Robotic Construction*. May 2025.

[4] Ehsan Latif Aiman Munir and Ramviyas Parasuraman. “Anchor-oriented Multi-Robot Coverage without Global Localization.” In: *IEEE ICRA 2024 Workshop on Sensing and Perception in Extreme Environments (HERMES)*. Spotlight Presentation. May 2024.

[5] Ehsan Latif, Ramviyas Parasuraman, and Xiaoming Zhai. “PhysicsAssistant: An LLM-Powered Interactive Learning Robot for Physics Lab Investigations.” In: *IEEE ICRA 2024 Workshop on Accelerating Discovery in Natural Science Laboratories with AI and Robotics*. **Selected for the Pioneer Award**. May 2024.

[6] Aiman Munir and Ramviyas Parasuraman. “Energy-Aware Coverage Planning for Heterogeneous Multi-Robot System.” In: *IEEE International Symposium on Multi-Robot & Multi-Agent Systems (MRS) 2023*. Poster Paper. Dec. 2023.

[7] Ehsan Latif and Ramviyas Parasuraman. “CQLite: Coverage-biased Q-Learning for Communication-Efficient Multi-Robot Exploration.” In: *ICRA 2023 Workshop on Communication Challenges in Multi-Robot Systems: Perception, Coordination, and Learning*. (London, UK). June 2023.

[8] Ehsan Latif, Ramviyas Parasuraman, Raman Pidaparti, and Brian Fairchild. “Robot-Centric Broiler Mortality Detection using Deep Learning.” In: *USDA NIFA AI in Agriculture Conference*. (Orlando, FL). Apr. 2023.

[9] Qin Yang and Ramviyas Parasuraman. “A Game-theoretic Utility Network for Multi-Agent Decisions in Adversarial Environments.” In: *IROS 2022 Workshop on Decision Making in Multi-Agent Systems*. Oct. 2022.

[10] Nazish Tahir and Ramviyas Parasuraman. “Collaborative Control of Mobile Robots Using Analog Twin Framework.” In: *ICRA 2022 Workshop on Intelligent Control Methods and Machine Learning Algorithms for Human-Robot Interaction and Assistive Robotics*. May 2022.

[11] Aiman Munir and Ramviyas Parasuraman. “Sharing Autonomy of Exploration and Exploitation via Control Interface.” In: *ICRA 2022 Workshop on Shared Autonomy in Physical Human-Robot Interaction: Adaptability and Trust*. May 2022.

[12] Pranav Pandey, Ramviyas Parasuraman, and Prashant Doshi. “On Physical Compatibility of Robots in Human-Robot Collaboration Settings.” In: *ICRA 2022 WORKSHOP ON COLLABORATIVE ROBOTS AND THE WORK OF THE FUTURE*. May 2022.

[13] Nazish Tahir and Ramviyas Parasuraman. “Robot Controlling Robots - A New Perspective to Bilateral Teleoperation in Mobile Robots.” In: *RSS 2020 Workshop on Reacting to Contact: Enabling Transparent Interactions through Intelligent Sensing and Actuation, 2020.* July 2020.

[14] Wonse Jo, Shyam Sundar Kannan, Ramviyas Parasuraman, and Byung-Cheol Min. “Development of Material Recognition Training System for Visually Impaired People.” In: *Health and Disease: Science, Technology, Culture and Policy*. (West Lafayette, IN, USA). Purdue University. Mar. 2018.

[15] Ramviyas Parasuraman, Sergio Caccamo, Luigi Freda, Mario Gianni, Petter Ögren, and Byung-Cheol Min. “An Approach to Retrieve from Communication Loss in Field Robots.” In: *Workshop on Robot Communication in the Wild: Meeting the Challenges of Real-world Systems*. (Boston, USA). Robotics Science and Systems (RSS) Conference. July 2017.

[16] Danilo Tardioli, Ramviyas Parasuraman, Petter Ogren, and Byung-Cheol Min. “Pound: A multi-core ROS Node to Improve Wireless Communication Performance in Networked Robots.” In: *Workshop on Robot Communication in the Wild: Meeting the Challenges of Real-world Systems*. (Boston, USA). RSS Conference. July 2017.

[17] Ramviyas Parasuraman, Jonghoek Kim, Shaocheng Luo, and Byung-Cheol Min. “Hierarchical Tracking-based Multi-Point Rendezvous in Multi-Robot System.” In: *Robots and Sensors for the Human Well-being (ROSE-HUB) Fall Meeting*. (Denver, CO, USA). NSF. Nov. 2017.

[18] Jun-Han Bae, Ramviyas Parasuraman, Wonse Jo, Arabinda Samantaray, Jee-Hwan Park, Hunjung Lim, and Byung-Cheol Min. “Development of Autonomous Robotic System for Algae Removal.” In: *4th Annual Environmental Community Mixer*. (West Lafayette, USA). Purdue Discovery Park. Sept. 2017.

[19] Shaocheng Luo, Ramviyas Parasuraman, Jun Han Bae, Sangjun Lee, Jonghoek Kim, and Byung-Cheol Min. “Multi-Robot Rendezvous Control and Optimization.” In: *Midwest Robotics Workshop (MWRW)*. (Chicago, IL, USA). May 2017.

[20] Shaocheng Luo, Ramviyas Parasuraman, Jun-Han Bae, Sangjun Lee, Jonghoek Kim, and Byung-Cheol Min. “Time-Constrained Multi-Robot Rendezvous Control and Optimization.” In: *Robots and Sensors for the Human Well-being (ROSE-HUB) Spring Meeting*. (Denver, CO, USA). NSF. May 2017.

[21] Ramviyas Parasuraman, Luca Molinari, Mario Di Castro, Keith Kershaw, and Alessandro Masi. “A Fast Radio Signal Strength Prediction Algorithm for Mobile Robots in Unknown Environments.” In: *Workshop on Communication Aware Robotics: New Tools for Multi-Robot Networks, Autonomous Vehicles, and Localization (CarNet)*. (UC Berkeley, USA). Robotics Science and Systems (RSS) Conference. July 2014.

[22] Ramviyas Parasuraman, Keith Kershaw, and Manuel Ferre. “A study on wireless communication for mobile robots in hostile environments.” In: *Workshop on Telerobotics and Systems Engineering for Scientific Facilities*. (Madrid, Spain). Oct. 2012.

[23] Ramviyas Parasuraman, Abhishek Jain, and Narayanaswamy B. “Instrumental and Impedance Analysis of Nanoporous Alumina.” In: *International Conference on Nanomaterials and Applications (ICNA)*. (Trichy, India). **Received the Best Poster Award**. 2007.

[24] Abhisekh Jain, Arvind Seshadhri, Balaji BS, and Ramviyas Parasuraman. “Onboard Dynamic Rail Track Safety Monitoring System.” In: *International Conference on Advanced Communication Systems*. (Coimbatore, India). 2007.

Thesis Products

[1] Naveen Kurra, Ramviyas Parasuraman (Advisor), and Ramana Pidaparti (Co-Advisor). “Sensing and Evaluation of Bird Comfort Using Internet of Things and Machine Learning.” M.S. (Computer Science) Thesis. University of Georgia, Dec. 2024.

[2] Nazish Tahir and Ramviyas Parasuraman (Advisor). “Towards Collaborative Control and Computing in Multi-Robot Systems.” Ph.D. (Computer Science) Thesis. University of Georgia, July 2024.

[3] Shailendra Sekhar Reddy Bathula and Ramviyas Parasuraman (Advisor). “Synthetic Instincts: Echoing Reinforcement Learning Agents for Behavior Tree Generation.” M.S. (Artificial Intelligence) Thesis. University of Georgia, July 2024.

[4] Ehsan Latif and Ramviyas Parasuraman (Advisor). “Collaborative Algorithms for Localization and Exploration in Multi-Robot Systems.” Ph.D. (Computer Science) Thesis. University of Georgia, July 2023.

[5] Siva Krishna Ravipati and Ramviyas Parasuraman (Advisor). “Semantic Material Labeling of 3D Point Cloud using RGB-D Data and Visual SLAM.” M.S. (Artificial Intelligence) Thesis. University of Georgia, May 2023.

[6] Qin Yang and Ramviyas Parasuraman (Advisor). “Self-Adaptive Swarm System.” Ph.D. (Computer Science) Thesis. University of Georgia, May 2022, p. 194.

[7] Caleb Adams and Ramviyas Parasuraman (Advisor). “High-Performance Computation with Small Satellites and Small Satellite Swarms for 3D Reconstruction.” M.S. (Computer Science) Thesis. University of Georgia, May 2020, p. 127.

[8] Parasuraman, Ramviyas. “Wireless Communication Enhancement Methods for Mobile Robots in Radiation Environments.” Ph.D. Thesis. Universidad Politécnica de Madrid (UPM), Spain and CERN, Switzerland, 2014.

[9] Parasuraman, Ramviyas. “Mobility Enhancement for the Elderly.” Masters Thesis. Indian Institute of Technology Delhi (IIT-D) and Ecole Politecnica Federal de Lausanne (EPFL), 2010.

[10] Parasuraman, Ramviyas. “Automated generation of VLSI standard cell libraries using Genetic Algorithms.” B.E. Thesis. Thiagarajar College of Engineering, Madurai, India (Anna University), 2008.

Patents and Invention Disclosures

[1] Ramviyas Parasuraman and Michael Starks. “Gravitational Mass-Force Framework for Multi-Robot Systems.” In: *Provisional Patent Application* (Jan. 2025). US Patent App No. 63/741,484, Filing Date: 2025-01-03.

[2] Ramviyas Parasuraman and Michael Starks. “System and Method for Parameterized Control of Multiple Mobile Robots.” In: (Apr. 2024). Invention Disclosure, UGA.

[3] Sanjay Sarma OV, Ramviyas Parasuraman, and Ramana Pidaparti. “Methods and Frameworks for Microtubule System Dynamics towards Diseases and Targeted Drug Delivery.” In: (Jan. 2024). Invention Disclosure, UGA.

[4] Ramviyas Parasuraman, Ramana Pidaparti, and Brian Fairchild. “Autonomous System for Identification and Extraction of Dead Birds in Broiler Production Farms.” In: (Aug. 2023). Invention Disclosure, UGA.

[5] Michael Starks, Ramviyas Parasuraman, Caroline Lassiter, Aiden Delliponti, William Bradford, and Jackson Snow. “HeRoCube: A Novel Modular Holonomic Robot Design.” In: (Apr. 2023). Invention Disclosure, UGA.

Internet Code and Dataset Repositories

[1] Sanjay Sarma, Parasuraman, Ramviyas, and Ramana Pidaparti. “IKT-BT: Indirect Knowledge Transfer Behavior Tree Framework for Multi-Robot Systems Through Communication Eavesdropping.” In: *Github* (2024). `https://github.com/herolab-uga/IKTBT-Release`.

[2] Aiman Munir, Ehsan Latif, and Parasuraman, Ramviyas. “MR-AOC: Anchor-oriented Multi-Robot Coverage without Global Localization.” In: *Github* (2024). `https://github.com/herolab-uga/mr-aoc`.

[3] Aiman Munir, Ayan Dutta, and Parasuraman, Ramviyas. “EAC: Energy-Aware Multi-Robot Coverage Controller.” In: *Github* (2024). `https://github.com/herolab-uga/energy-aware-coverage`.

[4] Ehsan Latif and Parasuraman, Ramviyas. “GPRL: Gaussian Processes for Relative Localization in Multi-Robot Systems.” In: *Github* (2024). `https://github.com/herolab-uga/gprl-multi-robot-localization`.

[5] Pranav Pandey, Parasuraman, Ramviyas, and Prashant Doshi. "FRESHR-GSI: A ROS Package for Evaluating Human Safety in Human Shared Mobile Robot Applications." In: *Github* (2024). **https://github.com/herolab-uga/FRESHR-GSI**.

[6] Ehsan Latif and Parasuraman, Ramviyas. "CQLite: Coverage-biased Q-Learning Lite for Efficient Multi-Robot Exploration." In: *Github* (2024). **https://github.com/herolab-uga/cqlite**.

[7] Ehsan Latif and Parasuraman, Ramviyas. "ROS-SEAL: A ROS Package for Simultaneous Exploration and Localization for Multi-Robot Applications." In: *Github* (2023). **https://github.com/herolab-uga/ROS-SEAL**.

[8] Ehsan Latif, WenZhan Song, and Parasuraman, Ramviyas. "MazeComRL: A communication-efficient reinforcement learning algorithm for solving maze exploration problems." In: *Github* (2023). **https://github.com/herolab-uga/MazeCommRL**.

[9] Sanjay Sarma, Parasuraman, Ramviyas, and Ramana Pidaparti. "KT-BT: A Framework for Knowledge Transfer Through Behavior Trees in Multi-Robot Systems. Multi-Robot Search and Rescue Simulator With Different Knowledge Base." In: *Github* (2023). **https://github.com/herolab-uga/KTBT-Release**.

[10] Ehsan Latif and Parasuraman, Ramviyas. "CDOA-Localization: Instantaneous Wireless Robotic Node Localization Using Collaborative Direction of Arrival." In: *Github* (2023). **https://github.com/herolab-uga/cdoa-localization**.

[11] Qin Yang and Parasuraman, Ramviyas. "BSAC: Bayesian Soft Actor Critic (BSAC)." In: *Github* (2022). **https://github.com/herolab-uga/bsac**.

[12] Ehsan Latif and Parasuraman, Ramviyas. "DGORL: Distributed Graph Optimization based Relative Localization of Multi-Robot Systems." In: *Github* (2022). **https://github.com/herolab-uga/DGORL**.

[13] Michael Starks, Aryan Gupta, Sanjay Sarma OV, and Parasuraman, Ramviyas. "HeRoSwarm v2: Robots open-source hardware and software design repository." In: *Github* (2022). **https://github.com/herolab-uga/heroswarmv2**.

[14] Anderson Molter and Parasuraman, Ramviyas. "HeRoCars: Robot RC cars open-source hardware and software design repository." In: *Github* (2021). **https://github.com/herolab-uga/herocars**.

[15] Sanjay Sarma OV and Parasuraman, Ramviyas. "HeRoSwarm v1: Robots open-source hardware and software design repository." In: *Github* (2021). **https://github.com/herolab-uga/heroswarm_v1**.

[16] Pranav Pandey and Parasuraman, Ramviyas. "ROS-Network-Analysis: Codes and Datasets: Robot Operating Systems (ROS) Network Analysis Package." In: *Github* (2021). **https://github.com/herolab-uga/ros-network-analysis**.

[17] Ehsan Latif and Parasuraman, Ramviyas. "PF-DOA: Codes and Datasets: Device Localization Using Particle Filter over DOA of Wireless Signals." In: *Github* (2021). **https://github.com/herolab-uga/pf-doa-localization**.

[18] Ravi Parashar and Parasuraman, Ramviyas. "Indoor-RSSI-Robot: Dataset: WiFi RSSI Dataset from Mobile Robots in Indoor Environments." In: *Github* (2020). **https://github.com/herolab-uga/indoor-rssi-mobile-robot**.

[19] Mohamed Haseeb and Parasuraman, Ramviyas. "Wisture: Codes and Dataset: Wi-Fi signal strength measurements from smartphone for various hand gestures." In: *IEEE DataPort* (2018). doi: **10.21227/H2C362**. **https://ieee-dataport.org/documents/wi-fi-signal-strength-measurements-smartphone-various-hand-gestures**.

Technical Reports

[1] PURESAFE Consortium (Pierre Bonnal et al.) "The OpenSE Framework - an open, lean and participative approach to systems engineering for projects in scientific facilities." Version 1.0.0.2. In: (Feb. 2016).

[2] Parasuraman, Ramviyas. "Few common failure cases in mobile robots." In: *arXiv:1508.03000 [cs.RO]* (2015).

[3] Parasuraman, Ramviyas. "CERN TIM robot pre-series energy management system specifications." In: *CERN EDMS 1318898. EDMS 1296740 v2* (2013).

[4] Parasuraman, Ramviyas and Alexander Stadler. "Wireless Video transmission tests in CERN ISOLDE Facility." In: *CERN EDMS 1209799* (2012).

[5] Parasuraman, Ramviyas. "Needs gathered for a mobile platform to be used in remote radiation survey and inspection applications at CERN." In: *CERN EDMS 1326585* (2011).

Invited Talks, Seminars, and Guest Lectures

[1] *Relative Localization in Multi-Robot and Wireless Networked Systems*. Invited Talk at IEEE Denver Computer Information Theory and Robotics Society., Sept. 2024.

[2] *Heterogeneity and Collaboration in Multi-Robot Sytems*. Invited Talk at University of North Carolina, Charlotte, Feb. 2024.

[3] *Collaborative Localization of Mobile Robots Using Wireless Signals*. Invited Talk at Engineering & Maths Research Seminar Series, Sheffield Hallam University, UK, Nov. 2023.

[4] *Robot Twins for Computing and Autonomy*. Invited Talk, Cyber-Physical Systems Symposium, UGA, Aug. 2023.

[5] *Multi-Robot Localization Algorithms*. Invited Talk at the University of Liverpool, UK, May 2023.

[6] *Heterogeneous Robotics Research*. Guest Lecture, FYOS Seminar - Asian Americans' contributions to USA's science and lecture, UGA, Nov. 2022.

[7] *Heterogeneous Multi-Robot Systems*. Invited Talk, Cyber-Physical Systems Symposium, UGA, Aug. 2022.

[8] *Heterogeneous Multi-Robot Systems*. Invited Talk, Phenomics and Plant Robotics Center Symposium, UGA, Sept. 2021.

[9] *Learning Time Series Data: A Case Study on Wi-Fi Signal Classification For On-Air Hand Gesture Detection*. Invited Seminar, Thiagarajar College of Engineering, India, Aug. 2021.

[10] *Exploiting Connectivity Graph for Multi-Robot Control Mechanisms*. Invited Talk, National Institute of Technology Silchar, India, Sept. 2020.

[11] *Robotics and Control*. Guest Lecture, Computer Architecture and Organization, UGA, Mar. 2020.

[12] *Learning On-Air Hand Gestures From Wi-Fi Signals on Smartphones*. Invited Talk, Deep Learning Seminar, UGA, Oct. 2019.

[13] *Trends in Micro Nano Multi Robot Systems*. Invited Talk, Applied Physics Seminar, UGA, Feb. 2019.

[14] *Bridging Robotics and Wireless Networking*. Guest Lecture, FYOS 1001, UGA, Nov. 2018.

[15] *Networked Robotics Research*. Guest Lecture, ATRI 8800, UGA, Oct. 2018.

[16] *Robot Control, Communication, and Learning Using Wireless Networks*. Invited Talk, UGA, Apr. 2018.

[17] *Use of Wireless Network Measurements for Mobile Robot Systems*. Invited Talk, IIT Madras, India, Mar. 2018.

[18] *Gaussian Processes for Regression*. Seminar, SMART lab, Purdue University, USA, Jan. 2018.
[19] *Resilient Control and Communications for Multi-Robot Systems*. Invited Talk, IIT Palakkad, India, Jan. 2018.
[20] *Robotic Technologies for Assistive Wheelchairs*. Guest Lecture, Introduction to Assistive Technology and Robotics, Purdue University, USA, Oct. 2017.
[21] *Tutorial on Robotarium for Multi-Robot Experiments*. Presentation, SMART lab, Purdue University, USA, Aug. 2017.
[22] *Design Guidelines for Mobile Robotic Systems in Harsh Environments*. Guest Lecture, CNIT 581-008: Software Design and Development for Robotics, Purdue University, USA, Apr. 2017.
[23] *Resilient Wireless Communications for Field Robots*. Invited Talk, Polytechnic Postdoctoral Seminar, Purdue University, USA, Mar. 2017.
[24] *Short course on Robot Operating Systems (ROS)*. Guest Lecture, SMART lab, Purdue University, USA, Feb–May, 2017.
[25] *Assistive Technologies for disabled - Mobility Enhancement*. Guest Lecture, CNIT 581-AST: Introduction to Assistive Technology and Robotics, Purdue University, USA, Oct. 2016.
[26] *Progress on Work Package 2 of EU-FP7 TRADR Project*. Invited Talk, TRADR Review Meeting Year 2, Dortmund IFR, Germany, Mar. 2016.
[27] *Wireless Communication Enhancement Methods for Mobile Robots in Scientific Facilities*. Invited Talk, PURESAFE Final Conference, Geneva, Switzerland, Jan. 2016.
[28] *Generic mobile platform modules development for remote radiation survey and inspection*. Invited Talk, CERN Engineering Department Technical Meeting (ENTM), Geneva, Switzerland, Dec. 2012.

Teaching and Supervision

Instructor: Spring 2019, 2020, 2021, 2022, 2023, 2024, 2025 CSCI 8535 Multi-Robot Systems (4 Credits), UGA.
A graduate-level course on the recent topics in Multi-Robot Systems research.
Fall 2023 CSCI 8530 Advanced Topics in Robotics (4 Credits), UGA.
A graduate-level course on the recent topics in Robotics research.
Fall 2018, 2019, 2020, 2021, 2022, 2023, 2024 CSCI (ATRI) 4530/6530 Introduction to Robotics (4 Credits), UGA.
A split-level (undergraduate and graduate) course covering various topics on autonomous mobile robotics.
Fall 2021 CSCI 1300-1300L Introduction to Python Programming (4 Credits), UGA.
An introductory undergraduate course covering the basics of programming and Python.
Spring 2022, Spring 2023, Fall 2024 FYOS 1001 Robotics and Autonomous Vehicles (1 Credit), UGA.
A freshman undergraduate seminar course covering the fundamentals of robotics and autonomous vehicles to attract freshmen students towards research and relevant courses in computer science.
Fall 2015, Fall 2016 EL2310 Scientific Programming (7.5 ECTS credits, 40 hours), KTH.
A split-level (undergraduate and graduate) course on the basics of C, C++, and MATLAB programming.

Supervisor: Current Postdocs - Tohid Tasooji (CS)
Current Graduate/Thesis students - Sai Krishna Ghanta (PhD-AI), Swaraj Nistane (PhD-CS), Aiman Munir (PhD-CS), Pranav Pandey (PhD-CS, co-supervised with Dr. Prashant Doshi), Atharva Sagale (MS-CS).
Current MS Project students - Harshith Kasthuri, Khoa Le
Current Undergraduate Students - Samuel Lemus (CS), Rocco Arching (CS), Rishab Seshadri (CS), Ethan Nahs Carroll (CS), Daniel Lajj (CS), Marcelo Lannaman (ME)
Former Graduate/Thesis Students - Nazish Tahir (PhD-CS, now a Faculty at UGA), Ehsan Latif (PhD-CS, now a Postdoc at UGA), Qin Yang (PhD-CS, now an Asst. Prof. at Bradley University), Sanjay Sarma Oruganti Venkata (PhD-ENGR, now a Postdoc at RPI), Shailendra Bathula (MS-AI), Naveen Kurra (MS-CS, co-supervised with Dr. Ramana Pidaparti), Siva Ravipati (MS-CS), Caleb Adams (now Program Manager at NASA).
Former MS Project Students - Jeyanth Dondeti, Manish Ravikanti, Sanket Veer, Sai Sree Meka, Kaushik Vadlapudi. Dhaval Bhanderi (MS-CS), Ravi Parashar (MS-CS).
Former Undergraduate Students - Neil Patel (CSE), Kartikey Sankhdhar (CS), Arnav Arora (CS), Micahel Starks (CSE), Caroline Lessiter (CSE), Ashurst Walker (CS), Diego Almeida (CS), Nachiket Hinge (CS), Hakan Grunerli (CS), Ravi Parashar (CS), Anderson Molter (CS), Ervin Enriquez (CSE), Anushka Bagad (CS), Jacob Gil (CS), Mohammed Mohammed (ELE), Madhurya Gajula (CSE), Sharanya Pillalamarri (CSE), Luke Lashley (CS), Parisha Reddy (CS), Karthik Paladugula (CS), Davielle Matos (CS), Linsey Brialey (CS), Mahdi Ghafouri (CSE).

Mentor: Capstone Projects Multi-Robot Maze Testbed (2023-2024), Power-Sharing Swarm Robot Design (2022-2023), Poultry Patrol Robot (2021-2022)

Professional Service/Activities

Chair/Organizing Committee:	Chair of Workshop Organizing Committee: ICRA 2023 Full-day Workshop on Communication Challenges in Multi-Robot Systems: Perception, Coordination, and Learning (June 2023).
Editorial activities:	Associate Editor for the IEEE/RSJ International Conference on Intelligent Robots and Systems *(IROS 2025)*. Area Editor for the IEEE International Symposium on Multi-Robot and Multi-Agent Systems *(MRS 2023)*. Associate Editor for the IEEE International Conference on Robotics and Automation *(ICRA 2020)*. Guest editor in the *Frontier in Robotics and AI* Journal (2022-Current). Guest editor for a special issue on "Heterogeneity in Intelligent Mobile Robots and Systems" in the *Machines* Journal of the MDPI Publishers (2022-Current). Guest editor for a special issue on "Assistive Robotics" in the *Technologies* Journal of the MDPI Publishers (2017-2018).
Journal Reviewer:	IEEE Trans. Robotics, Intl. J. Robotics Research, Journal of Field Robotics, ACM Trans. Human-Robot Interaction, IEEE Trans. Cybernetics, IEEE Trans. SMC Systems, IEEE Systems Journal, Autonomous Agents and Multiagent Systems, IEEE Robotics and Automation Letters, IEEE Trans. Mechatronics, Autonomous Robots, IEEE Trans. Human-Machine Systems, Journal of Intelligent Robot Systems, IEEE Sensors, PLOS One, Mobile Networks and Applications.
Conference PC/Reviewer:	Intelligent Robots and Systems (IROS), Robotics and Automation (ICRA), Human-Robot Interaction (HRI), Joint Conference on Artif. Intel. (IJCAI), Search and Rescue Robotics (SSRR), Multi Robot Systems (MRS), Distributed Autonomous Robots Systems (DARS), Vehicular Technology Conference (VTC), Sensors, Decision and Control (CDC), American Control (ACC), Telecommunications (WTS), etc.
Grant Reviewer:	NSF Review Panel Member (2018,2021), Army Research Office (2021).
Professional memberships:	IEEE Member (current), ACM Member (current), IEEE Robotics and Automation Society (RAS) (current), IEEE Vehicular Technology Society (VTS) (current), IEEE Communications Society (ComSoc) (2011-2013), IEEE Signal Processing Society (SPS) (2014-present), IFAC Associate (2012-present), Institution of Engineers India (2005-2008), IEEE RAS TC on Telerobotics (2015 - present), IEEE RAS TC on Robotics and Automation in Nuclear Facilities (2012-present), IEEE RAS TC on Multi-Robot Systems (2017-current).
Media appearance/Outreach:	My role and collaboration in a Nature's Asia Materials paper was mentioned in the news story from Purdue. Our paper on Learning Behavior Trees was highlighted in Nordeous Engineering Blog at this news story I appeared in the PURESAFE Promo/Outreach video by CERN (Aug 2012). I demonstrated cool robots during the CERN Open Days (Sep 2013), a public event which had more than 50,000 visitors.