

Ramviyas Nattanmai Parasuraman

Assistant Professor, Department of Computer Science University of Georgia (UGA)

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Office: 803, Boyd GSRC, Athens, GA 30602, USA

Director: [HeRo Lab - Heterogeneous Robotics Research Lab](#) <http://hero.uga.edu>

Personal Statement

- I passionately research and teach Robotics, with expertise in multi-robot control, communication, 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 mobile robot 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
- > Robotics in Nuclear Facilities
- > Human-Robot Interaction/Interfaces
- > Intelligent Teleoperation
- > Assitive Robotic Technologies
- > Robot Sensing and Communications

Education

- Nov 2011 – Oct 2014 [Ph.D. in Robotics and Automation \(with "Outstanding" and "International Doctorate" mentions\)](#)
UPM - Universidad Politécnica de Madrid (Technical University of Madrid), Madrid, Spain
- Jul 2008 – May 2010 [Masters of Technology \(M.Tech\) in Instrument Technology](#)
IIT-D - Indian Institute of Technology Delhi, New Delhi, India
- Mar 2010–May 2010 [M.Sc. Exchange Student](#)
EPFL - École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland
- Aug 2004 – May 2008 [Bachelor of Engineering \(B.E\) in Electronics and Instrumentation](#)
TCE - Thiagarajar College of Engineering (Anna University), Madurai, India

Work Experience

- Present** | **Assistant Professor, UGA, Athens, GA, USA**
- Aug 2018**
- > Conduct research, teaching, and supervision in the Department of Computer Science at UGA.
 - > Directing the Heterogeneous Robotics (*HeRo*) Research Lab at UGA.
- [Heterogeneous Robots](#) [Multi-Robot Systems](#) [Networked Robots](#) [Nuclear Robotics](#)
- Jul 2018** | **Postdoctoral Research Associate, Purdue University, West Lafayette, USA**
- Oct 2016**
- > 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](#)
- Sep 2016** | **Postdoctoral Researcher and Teacher, KTH Royal Institute of Technology, Stockholm, Sweden**
- Oct 2014**
- > 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](#)
- Jul 2014** | **Fellow (Researcher), CERN - European Organization for Nuclear Research, Geneva, Switzerland**
- Aug 2011**
- > 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) PURES SAFE, 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](#)
- May 2011** | **Associate Applications Engineer, Oracle Corp., Bangalore, India**
- Jul 2010**
- > Applications developer in the Peoplesoft Human Resource Management Systems (HRMS) group.
- [Peoplesoft Tools](#) [Oracle SQL](#) [Human Capital Management \(HCM\)](#)

Funding/Grants Awarded

- Co-PI of a **Research Grant** on "Evaluating Human-Robot Compatibility" from the U.S. Army Research Office (2022-2023).
- PI of a **Learning Technology Grant** from Center of Teaching and Learning at UGA (2019-2020).
- Received Cloud Platform **Education Grant** from Google (2019).
- UGA-University of Liverpool **Faculty Research Exchange** Visit Grant (2019).
- Postdoctoral **Travel Grant**, Purdue University (2017, 2018).
- **Marie-Curie** Early State Research Fellowship Grant from the European Commission (20011-2014).

Publications and Presentations

Journal Articles

- [1] 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.
- [2] 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 (2019). doi: 10.1038/s41427-019-0143-9.
- [3] 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.
- [4] 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.
- [5] 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.
- [6] 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.
- [7] Ramviyas Parasuraman and Byung-Cheol Min. "Special issue on Assistive Robotics (Editorial)." In: *Technologies* 6.4 (Oct. 2018). doi: 10.3390/technologies6040095.
- [8] 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 (2018), pp. 57–73. doi: 10.1016/j.robot.2017.11.013.
- [9] Ramviyas Parasuraman, Sergio Caccamo, Fredrik Båberg, Petter Ögren, and Mark Neerinx. "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.
- [10] 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.
- [11] 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/Workshop Papers (In Proceedings)

- [12] 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.
- [13] Yikang Gui, Ehsan Latif, and Ramviyas Parasuraman. "Message Expiration-Based Distributed Multi-Robot Task Management Conference Forthcoming." In: *The 5th International Symposium on Swarm Behavior and Bio-Inspired Robotics (SWARM)*. Jan. 2022.
- [14] 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.
- [15] 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.
- [16] 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.
- [17] 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.
- [18] 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.
- [19] 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.
- [20] 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: VTC2020-Fall*. Oct. 2020.
- [21] 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.

- [22] 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.
- [23] Petter Ögren Ramviyas Parasuraman and Byung-Cheol Min. "Kalman filter based spatial prediction of wireless connectivity for autonomous robots and connected vehicles." In: *IEEE Connected and Automated Vehicles Symposium (CAVS)*. (Chicago, IL, USA). Aug. 2018.
- [24] 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.
- [25] 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.
- [26] 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.
- [27] 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.
- [28] 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.
- [29] 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.
- [30] 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.
- [31] 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.

Workshop Short Papers/Abstracts (Peer-Reviewed)

- [32] 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.
- [33] 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.
- [34] Danilo Tardioli, Ramviyas Parasuraman, Petter Ögren, 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.
- [35] 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.

Workshop and Symposium Posters (Lightly Reviewed)

- [36] 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.
- [37] 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.
- [38] 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.
- [39] 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.
- [40] 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.
- [41] 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.
- [42] Ramviyas Parasuraman, Abhisekh Jain, and Narayanaswamy B. "Instrumental and Impedance Analysis of Nanoporous Alumina." In: *International Conference on Nanomaterials and Applications (ICNA)*. (Trichy, India). 2007.

Undergraduate Research Symposia Abstracts and Posters

- [43] Anderson Molter and Ramviyas Parasuraman. "Implementation of Machine Learning and ROS into Self-Driving RC Cars." In: *NCUR – National Conference on Undergraduate Research*. (Online). Apr. 2021.
- [44] Michael Starks and Ramviyas Parasuraman. "A Comparative Analysis of Computer Vision-based Driving of Small-scale Autonomous Vehicles." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2021.
- [45] Anushka Bagad and Ramviyas Parasuraman. "Demonstrating Sensor Data Integration with Swarm Robot Control." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2021.

- [46] Anderson Molter and Ramviyas Parasuraman. "Studying Machine Learning-Based Control of Self-Driving 1:16 RC Cars." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2021.
- [47] Erwin Enrique Starks and Ramviyas Parasuraman. "Studying Autonomous Recharging Behavior in Swarm Robots." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2021.
- [48] Anderson Molter and Ramviyas Parasuraman. "RC Car Game and Simulation for Learning AI and Robotics." In: *CURO Summer Research Summit*. (University of Georgia). July 2020.
- [49] Sharanya Pillalamarri, Madhurya Gajula, and Ramviyas Parasuraman. "Localization and Tracking in HeRo Swarm." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2020.
- [50] Anderson Molter and Ramviyas Parasuraman. "Simulation of Artificial Intelligence's Logic and Reasoning." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2020.
- [51] Jacob Gil and Ramviyas Parasuraman. "HeRo Swarm - Heterogeneous Robotic Swarm." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2020.
- [52] Mohammed Mohammed and Ramviyas Parasuraman. "Transformation of a RC Toy Car to a Robot." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2020.
- [53] Luke Lashley and Ramviyas Parasuraman. "Acoustic Perception of Materials in Mobile Robots." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2020.
- [54] Davielle Matos and Ramviyas Parasuraman. "Active Drone Rotor Noise Cancellation in Human-Drone Verbal Interaction." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2019.
- [55] Karthik Padalaguda and Ramviyas Parasuraman. "Extension of a Braitenberg Model to a Quadcopter in 3D." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2019.
- [56] Parisha Reddy and Ramviyas Parasuraman. "Realization of Dynamic Multi-Robot Connectivity Graphs." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2019.
- [57] Ravi Parashar and Ramviyas Parasuraman. "Localization of Robots Using Wi-Fi Signals and Probabilistic Approaches." In: *Annual CURO Research Symposium*. (University of Georgia). Apr. 2019.

Thesis Publications

- [58] 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.
- [59] Parasuraman, Ramviyas. "Mobility Enhancement for the Elderly." Masters Thesis. Indian Institute of Technology Delhi (IIT-D) and Ecole Polytechnique Fédérale de Lausanne (EPFL), 2010.
- [60] Parasuraman, Ramviyas. "Automated generation of VLSI standard cell libraries using Genetic Algorithms." B.E. Thesis. Thiagarajar College of Engineering, Madurai, India (Anna University), 2008.

Internet Code and Dataset Repositories

- [61] 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>.
- [62] 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.
- [63] Pranav Pandey and Parasuraman, Ramviyas. "Codes and Datasets: Robot Operating Systems (ROS) Network Analysis Package." In: *GitHub* (2021). <https://github.com/herolab-uga/ros-network-analysis>.
- [64] Ehsan Latif and Parasuraman, Ramviyas. "Codes and Datasets: Device Localization Using Particle Filter over DOA of Wireless Signals." In: *GitHub* (2021). <https://github.com/herolab-uga/pf-doa-localization>.
- [65] Ravi Parashar and Parasuraman, Ramviyas. "Dataset: WiFi RSSI Dataset from Mobile Robots in Indoor Environments." In: *GitHub* (2020). <https://github.com/herolab-uga/indoor-rssi-mobile-robot>.
- [66] Mohamed Haseeb and Parasuraman, Ramviyas. "Dataset: Wi-Fi signal strength measurements from smartphone for various hand gestures." In: *IEEE DataPort* (2018). doi: 10.21227/H2C362. <https://iee-dataport.org/documents/wi-fi-signal-strength-measurements-smartphone-various-hand-gestures>.
- [67] Parasuraman, Ramviyas, Sergio Caccamo, Fredrik Baberg, and Petter Ogren. "kth/rss dataset (v. 2016-01-05)." In: *CRAWDDAD* (2016). doi: 10.15783/C7088F. <https://crawdad.org/kth/rss/20160105/>.

Technical Reports

- [68] PURES SAFE 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).
- [69] Parasuraman, Ramviyas. "Few common failure cases in mobile robots." In: *arXiv:1508.03000 [cs.RO]* (2015).
- [70] Parasuraman, Ramviyas. "CERN TIM robot pre-series energy management system specifications." In: *CERN EDMS 1318898. EDMS 1296740 v2* (2013).
- [71] Parasuraman, Ramviyas and Alexander Stadler. "Wireless Video transmission tests in CERN ISOLDE Facility." In: *CERN EDMS 1209799* (2012).
- [72] 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] *Heterogeneous Multi-Robot Systems*. Invited Talk, Phenomics and Plant Robotics Center Symposium, UGA, Sept. 2021.

- [2] *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.
- [3] *Exploiting Connectivity Graph for Multi-Robot Control Mechanisms*. Invited Talk, National Institute of Technology Silchar, India, Sept. 2020.
- [4] *Robotics and Control*. Guest Lecture, Computer Architecture and Organization, UGA, Mar. 2020.
- [5] *Learning On-Air Hand Gestures From Wi-Fi Signals on Smartphones*. Invited Talk, Deep Learning Seminar, UGA, Oct. 2019.
- [6] *Trends in Micro Nano Multi Robot Systems*. Invited Talk, Applied Physics Seminar, UGA, Feb. 2019.
- [7] *Bridging Robotics and Wireless Networking*. Guest Lecture, FYOS 1001, UGA, Nov. 2018.
- [8] *Networked Robotics Research*. Guest Lecture, ATRI 8800, UGA, Oct. 2018.
- [9] *Robot Control, Communication, and Learning Using Wireless Networks*. Invited Talk, UGA, Apr. 2018.
- [10] *Use of Wireless Network Measurements for Mobile Robot Systems*. Invited Talk, IIT Madras, India, Mar. 2018.
- [11] *Gaussian Processes for Regression*. Seminar, SMART lab, Purdue University, USA, Jan. 2018.
- [12] *Resilient Control and Communications for Multi-Robot Systems*. Invited Talk, IIT Palakkad, India, Jan. 2018.
- [13] *Robotic Technologies for Assistive Wheelchairs*. Guest Lecture, Introduction to Assistive Technology and Robotics, Purdue University, USA, Oct. 2017.
- [14] *Tutorial on Robotarium for Multi-Robot Experiments*. Seminar, SMART lab, Purdue University, USA, Aug. 2017.
- [15] *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.
- [16] *Resilient Wireless Communications for Field Robots*. Invited Talk, Polytechnic Postdoctoral Seminar, Purdue University, USA, Mar. 2017.
- [17] *Short course on Robot Operating Systems (ROS)*. Guest Lecture, SMART lab, Purdue University, USA, Feb–May, 2017.
- [18] *Assistive Technologies for disabled - Mobility Enhancement*. Guest Lecture, CNIT 581-AST: Introduction to Assistive Technology and Robotics, Purdue University, USA, Oct. 2016.
- [19] *Progress on Work Package 2 of EU-FP7 TRADR Project*. Invited Talk, TRADR Review Meeting Year 2, Dortmund IFR, Germany, Mar. 2016.
- [20] *Wireless Communication Enhancement Methods for Mobile Robots in Scientific Facilities*. Invited Talk, PURES SAFE Final Conference, Geneva, Switzerland, Jan. 2016.
- [21] *Generic mobile platform modules development for remote radiation survey and inspection*. Invited Talk, CERN Engineering Department Technical Meeting (ENTM), Geneva, Switzerland, Dec. 2012.

Honors, Awards, and Achievements

- 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).

Teaching Activities

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

Supervision and Mentoring

- Supervisor:** [Current graduate students at UGA](#) - Qin Yang, Nazish Tahir, Pranav Pandey, Ehsan Latif, Aiman Munir, Sanjay Sarma (with Dr. Ramana Pidaparti), Siva Ravipati.
- [Current Undergraduates at UGA](#) - Michael Starks and Nachiket Hinge.
- [Former MS Students at UGA](#) - Caleb Adams, Ravi Parashar, Dhaval Bhandari.
- [Former Undergraduates at UGA](#) - Hakan Grunerli, Anderson Molter, Ervin Enriquez, Anushka Bagad, Jacob Gil, Mohammed Mohammed, Madhurya Gajula, Sharanya Pillalamarri, Luke Lashley, Parisha Reddy, Karthik Paladugula, Davielle Matos, Linsey Brialey, Mahdi Ghafouri.
- [Former Graduate Students at KTH](#) - **Mohammed Haseeb**, M.S at KTH (co-supervised by Prof. Petter Ögren), graduated Fall 2016, now with Watty, Sweden. **Mengchan Li**, M.S at KTH (co-supervised by Prof. Petter Ögren), graduated Fall 2015, now with A.O.Smith, China.

Editor: 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).

Associate Editor: Associate Editor for the International Conference on Robotics and Automation (ICRA) (2020).

Journal Reviewer: Trans. Cybernetics, Trans. SMC Systems, Trans. Robotics, Trans. Mechatronics, Intl. J. Robotics Research, Journal of Field Robotics, Autonomous Robots, Trans. Human-Machine Systems, Trans. Human-Robot Interaction, Journal of Intelligent Robot Systems, PLOS One, Mobile Networks and Applications, and IET Signal Processing.

Conference PC member/Reviewer: Intelligent Robots and Systems (IROS), Robotics and Automation (ICRA), 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 Robotics and Automation Society (RAS) (2011-2014), IEEE Communications Society (Com-Soc) (2011-2013), IEEE Signal Processing Society (SPS) (2014-present), IFAC Associate (2012-present), Institution of Engineers India (2005-2008), TC on Telerobotics (2015 - present), TC on Robotics and Automation in Nuclear Facilities (2012-present).

Media appearance/Outreach: My role and collaboration in a Nature’s Asia Materials paper was mentioned in the [news story](#) from Purdue.

I appeared in the PURES SAFE [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.