

Education

- 2021 - 2025 **Georgia Institute of Technology**, *Ph.D. in Robotics*, Atlanta, GA
Multi-Robot Task Allocation, Scheduling, and Motion Planning, Advisor: Seth Hutchinson, Cumulative GPA: 4.00/4.00
- 2025 **Georgia Institute of Technology**, *M.S. in Computer Science*, Atlanta, GA
Specialization: Computational Perception and Robotics; Cumulative GPA: 4.00/4.00
- 2019 **Stanford University**, *M.S. in Aeronautics and Astronautics*, Stanford, CA
Cumulative GPA: 3.81/4.00
- 2015 **University of Michigan**, *B.S.E. in Aerospace Engineering*, Ann Arbor, MI
Summa Cum Laude, James B. Angell Scholar, University Honors, Dean's Honor List, Cumulative GPA: 3.84/4.00

Experiences

- 2026.05 - present **Postdoctoral Research Associate**, *Northeastern University*, Boston, MA
- Conducting research on multi-robot systems with Dr. Seth Hutchinson, focusing on optimization, task allocation, and coordination in heterogeneous human-robot teams.
 - Collaborating with multiple institutions through the Distributed and Collaborative Intelligent Systems and Technology Collaborative Research Alliance on multi-robot planning and command-to-execution pipelines for heterogeneous robotic systems.
- 2021 - 2025 **Graduate Research Assistant**, *Georgia Institute of Technology*, Atlanta, GA
- Developed a scalable multi-robot system framework combining heuristic-based graph search for task allocation, MILP-based scheduling for long-horizon planning, and leveraged sampling-based motion planners for collision-free execution under complex constraints.
 - Collaborated with multiple institutions nationwide as part of the DCIST Collaborative Research Alliance (CRA) on simultaneous multi-robot planning and coordination, contributing to cross-institutional research and system integration.
 - Designed and validated an end-to-end robotic autonomy pipeline, spanning high-level task allocation to low-level, collision-free control using control barrier functions (CBFs), with successful deployment on physical robot platforms.
- 2019 - 2020 **Robotics Research Engineer**, *Brookhurst Garage, Inc.*, Sunnyvale, CA
- Worked as a hardware engineer, software engineer, flight test engineer, and safety pilot at an autonomous drone startup specializing in indoor navigation for smart warehouse.
 - Developed a precision landing algorithm in Python and C++ using dual Aruco markers to guide drones to land safely at the intended target point, reducing landing uncertainty by 70%.
 - Developed a height estimation algorithm to provide redundancy and reject false altitude readings from a downward-facing range finder used in indoor navigation.
 - Built Linux and ROS environments for custom-designed, 3D-printed drones equipped with onboard computing units (NVIDIA Jetson) and conducted autonomous flight integration tests.
 - Successfully performed end-to-end validation of fully autonomous indoor navigation drones for key stakeholders and prospective investors.
- 2011 - 2013 **Staff Sergeant**, *Republic of Korea Air Force*, South Korea
- Two years of compulsory military service.

Technical Skills

- Languages** C/C++, Python, MATLAB/Simulink, Java
- Tools** Linux, ROS, Git, Docker, Gurobi (MILP), Pixhawk (PX4), Vicon, SolidWorks, 3D printing
- Licenses** FAA Certified Private Pilot - Airplane Single Engine Land
- Spoken** Korean (Native), English (Fluent)

Selected Publications

- [1] J. Park, A. Messing, H. Ravichandar, and S. Hutchinson, "Risk-tolerant task allocation and scheduling in heterogeneous multi-robot teams," in *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. IEEE, 2023, pp. 5372–5379.
- [2] J. Park, H. Ravichandar, and S. Hutchinson, "Modeling and optimizing the provisioning of exhaustible capabilities for simultaneous task allocation and scheduling," in *Proceedings of the 25th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2026)*. Paphos, Cyprus: International Foundation for Autonomous Agents and Multiagent Systems, May 2026, pp. 1–10.