Addy (Jin Hyun) Park

+1-607-279-1302 | apark2459@gmail.com | jinhyunp.com
jinhyunpark2 | apark2459
Ithaca, NY 14850, United States

Education

- **Cornell University** *Jan 2024 - Dec 2024*
  M.Eng. in Mechanical Engineering Ithaca, NY
  - GPA: 3.74/4.30
- **Cornell University** *Aug 2018 - May 2024*
  B.S. in Mechanical Engineering Ithaca, NY
  - GPA: 3.72/4.30

Experience

- **Autonomous Systems Lab [🌐]** *May 2025 - Present*
  Research Engineer Ithaca, NY
  - Built a full-stack ROS 2 software infrastructure for Clearpath Jackal UGVs and Hello Robot Stretch platforms, creating a reusable testbed to accelerate validation of path planning, multi-object tracking, and trajectory forecasting algorithms.
  - Conducted research in uncertainty-aware safe motion planning with probabilistic guarantees for collision avoidance; resulted in two conference submissions [C.1, C.2].
- **Collective Embodied Intelligence Lab [🌐]** *July 2024 - Dec 2024*
  Graduate Research Assistant Ithaca, NY
  - Engineered an indoor localization system using SteamVR Base Stations that achieves cm-level position accuracy.
  - Developed an autonomy stack for snail-inspired robots for efficient marine microplastic removal with modules for localization, vision-based object tracking, control, and teleoperation. [🌐]
  - Built a robust MQTT multi-robot communication stack that enables real-time inter-robot messaging.
- **Autonomous Systems Lab [🌐]** *Jan 2024 - May 2024*
  Undergraduate Research Assistant Ithaca, NY
  - Designed and implemented a path-tracking controller in ROS 1 for mobile robots, achieving cm-level tracking accuracy.[🌐]
- **maum.ai [🌐]** *Jun 2020 - Aug 2020*
  Software Engineer Intern Seoul, South Korea
  - Analyzed and benchmarked 5 human pose-estimation algorithms; presented tradeoffs to ML team.
  - Built a Python anomaly-detection pipeline using joint-coordinates to flag abnormal behaviors in real-time security camera footage.

Selected Projects

- **Successive Convex Programming for Fuel-Optimal Rocket Landing** *Jan 2025 - Mar 2025*
  Tools: CVX, Python [🌐]
  - Implemented a sequential convex programming algorithm in Python (CVX) to compute fuel-optimal 3-DOF rocket landing trajectories with nonconvex thrust constraints.
- **Nonlinear Control of a Two-link Planar Manipulator** *Jan 2024 - May 2024*
  Tools: MATLAB [🌐]
  - Modeled and simulated nonlinear dynamics of a two-link planar robot arm, deriving full manipulator equations and implementing feedback linearization + LQR for tracking control in MATLAB.
  - Formulated and numerically explored minimum-energy optimal control using Pontryagin's maximum principle and polynomial control parameterization.
- **Fast Robots** *Jan 2023 - May 2023*
  Tools: C++ [🌐]
  - Built an autonomous robot car end to end, implementing PID control, sensor drivers (ToF, IMU), state estimation, mapping, grid localization, and planning and execution for indoor navigation.

PUBLICATIONS

C=CONFERENCE

[C.1] D. Xu, **J. Park**, A. Prasad, G. Fernandez, and M. Campbell, (2026). "Interpretable Collision Avoidance and Feasibility Guarantees through an Uncertainty Aware Pipeline". *Accepted to IEEE International Conference on Intelligent Robots and Systems (IROS), 2026.*

[C.2] D. Xu, **J. Park**, and M. Campbell, (2026). "Uncertainty-Aware Probabilistic Safety Guarantees for Autonomous Mobile Robot Navigation". *Submitted to IEEE International Conference on Automation Science and Engineering (CASE), 2026. (under review)*

SKILLS

- **Programming Languages:** C++, Python
- **Relevant Coursework:** Classical Control, Optimal Control, Nonlinear Control, Nonlinear Dynamics, Linear Systems Theory, State Estimation, Convex Optimization
- **Other Tools:** ROS 1/2, Docker, Git, SolidWorks