Arjun Gupta

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Education

University of Illinois at Urbana-Champaign — Urbana, IL
PhD in Electrical and Computer Engineering — *Jan. 2021 - Present*
M.S. in Electrical and Computer Engineering — *Jan. 2021 - Dec. 2022*
B.S. in Computer Engineering — *Aug. 2017 - Dec. 2020*

- Graduated with Highest Honors (GPA: 3.97)

Selected Publications

[1] A Training-Free Framework for Precise Mobile Manipulation of Small Everyday Objects — Under Review
Arjun Gupta, Rishik Sathua, Saurabh Gupta [webpage]

[2] Opening Articulated Structures in the Real World — RSS 2025
Arjun Gupta, Michelle Zhang*, Rishik Sathua*, Saurabh Gupta [webpage]

[3] Estimating Perceptual Uncertainty to Predict Robust Motion Plans — IROS 2024
Arjun Gupta, Michelle Zhang, Saurabh Gupta [webpage]

[4] Mitigating Perspective Distortion-induced Shape Ambiguity in Image Crops — ECCV 2024
Aditya Prakash, **Arjun Gupta**, Saurabh Gupta [webpage]

[5] Predicting Motion Plans for Articulating Everyday Objects — ICRA 2023
Arjun Gupta, Max E. Shepherd, Saurabh Gupta [webpage]

[6] Learning Value Functions from Undirected State-only Experience — ICLR 2022
Matthew Chang*, **Arjun Gupta***, Saurabh Gupta [webpage]

[7] Semantic Visual Navigation by Watching YouTube Videos — NeurIPS 2020
Matthew Chang, **Arjun Gupta**, Saurabh Gupta [webpage]

Research Experience

University of Illinois at Urbana-Champaign — Urbana, IL
PhD Student — Advisor: Prof. Saurabh Gupta — *Jan. 2021 - Present*

- **Real World Robotics.** Developed end-to-end mobile manipulation pipelines for real robots (integrating perception, navigation, and manipulation) which generalize to *in-the-wild* settings across 10+ buildings [1, 2].
- **Computer Vision.** Trained state-of-the-art computer vision models for improving robustness in 3D vision [3, 4].
- **Motion Planning.** Developed a TrajOpt-based approach which outperforms existing planning methods [5].
- **Sim2Real RL.** Designed sim2real reinforcement learning approaches for navigation via learning from videos [6, 7].

Hello Robot Inc. — Martinez, CA
Research Intern — Manager: Dr. Chris Paxton — *Oct. 2024 - Dec. 2024*

- Developed general-purpose grasping functionality for Stretch AI using sim2real techniques. [webpage]

Awards and Honors

Andrew T. Yang Research and Entrepreneurship Award — 2022 - 2024
∗ Full graduate funding for two years.
Daniel W. and Carol A. Dobberpuhl Award[1] — 2020
Omron Electrical Engineering Scholarship[2] — 2019, 2020
Ackmann Family Scholarship[1] — 2018

[1] *Awarded to one student out of a pool of* 1000+, [2] *Awarded to two students out of a pool of* 1000+

Skills

Programming: Python, C++/C, ROS, Matlab.
Software: PyTorch, Keras, Tensorflow, NumPy, SciPy, OpenAI Gym, Git.