

# Minjune Hwang

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## EDUCATION

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### University of Southern California

*Ph.D. in Computer Science; GPA: 4.0/4.0*

Los Angeles, CA

*Aug. 2024 – Present*

### Stanford University

*M.S. in Computer Science; GPA: 3.95/4.3*

Stanford, CA

*Sep. 2021 – Dec. 2023*

### University of California, Berkeley

*B.A. in Computer Science & B.A. in Statistics; GPA: 3.90/4.0*

Berkeley, CA

*Aug. 2017 – May. 2021*

## RESEARCH INTEREST

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My research empowers robots to learn from humans for daily tasks by: (1) finetuning **robotic foundation policies** with diverse feedback (e.g., demonstrations, preferences, explicit reasoning) **to align with true user intent** and (2) training robust policies with **data curation/augmentation to overcome limited and noisy data** in robotics. In doing so, I use language as a medium for human-robot interaction, developing **communicative** agents that can proactively ask and answer questions while physically interacting in environments.

## RESEARCH EXPERIENCE

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### Sensing, Learning & Understanding for Robotic Manipulation (SLURM) Lab

Los Angeles, CA

*Ph.D. Researcher, advised by Prof. Daniel Seita*

*Aug. 2024 – Present*

- Developing a structured data augmentation and curation method to achieve zero-shot compositional & hierarchical generalization in end-to-end VLA policies.
- Designed a preference-based reward learning method that uses natural language reasons to overcome causal confusion and improve policy generalization.

### Stanford Vision & Learning (SVL) Lab

Stanford, CA

*Graduate Research Assistant, advised by Prof. Fei-Fei Li & Prof. Jiajun Wu*

*Mar. 2022 – Dec. 2023*

- Proposed hierarchical human-in-the-loop learning algorithms for efficient human-robot collaboration in complex manipulation tasks, leading into multiple paper acceptances in top conferences as a first author (CoRL, IROS).
- Designed controllers and skills for robot learning in large-scale embodied-AI simulation, BEHAVIOR-1K.
- Researched scene-graph-based RL algorithms for navigation and mobile manipulation.

### Berkeley AI Research

Berkeley, CA

*Research Assistant, advised by Prof. Alexandre Bayen & Prof. Laurent El Ghaoui*

*Feb. 2019 – May. 2021*

- Led the development of object detection & tracking model for a large-scale trajectory dataset for vehicle behavior learning and researched on safe motion planning with the dataset, under Prof. Alexandre Bayen.
- Researched extractive text summarization with sparse convex optimization, topic modeling, and RNNs.
- Developed a sparsity-invariant CNNs for adversarial attack detection via partial occlusion of images.

## INDUSTRY EXPERIENCE

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### Amazon Robotics

Westborough, MA

*Applied Scientist Intern*

*Sep. 2022 – Dec. 2022*

- Developed ML algorithms and pipelines for object detection & tracking in warehouse human-robot collaboration.

### Microsoft

Berkeley, CA

*Research Intern*

*Jun. 2022 – Sep. 2022*

- Designed an RL algorithm for offline sim-to-real transfer via reward augmentation and residual policy learning.

### Apple, Special Project Group

Cupertino, CA

*Software Engineering Intern, Motion & Trajectory Planning*

*May. 2021 – Aug. 2021*

- Researched imitation learning for the warm-start of trajectory optimization of autonomous robots.
- Developed motion sampling & planning algorithms for generating safe and kinematically feasible trajectories.

## SELECTED PUBLICATIONS

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\*: denotes equal contribution, †: equal advising

1. **Minjune Hwang**, Yigit Korkmaz, Daniel Seita<sup>†</sup>, Erdem Bıyık<sup>†</sup>. Causally Robust Reward Learning from Reason-Augmented Preference Feedback. *HiTL Workshop at RSS 2025 (Oral)*, In submission to *ICLR 2026*. [\[poster\]](#).
2. Fangyu Wu, Dequan Wang, **Minjune Hwang**, Chenhui Hao, Jiawei Lu, Trevor Darrell, Alexandre Bayen. Decentralized Vehicle Coordination: The Berkeley DeepDrive Drone Dataset. *ICRA 2025*. [\[pdf\]](#).
3. Ruohan Zhang\*, Sharon Lee\*, **Minjune Hwang\***, Ayano Hiranaka\*, Chen Wang, Wensi Ai, Jin Jie Ryan Tan, ..., Anthony Norcia, Li Fei-Fei, Jiajun Wu. NOIR: Neural Signal Operated Intelligent Robots for Everyday Activities. *CoRL 2023*. [\[pdf\]](#), [\[project page\]](#).
4. **Minjune Hwang\***, Ayano Hiranaka\*, Sharon Lee, Chen Wang, Li Fei-Fei, Jiajun Wu, Ruohan Zhang. Primitive Skill-Based Robot Learning from Human Evaluative Feedback. *IROS 2023*. [\[pdf\]](#), [\[project\]](#).
5. Michael Lingelbach, Chengshu Li, **Minjune Hwang**, Andrey Kurenkov, Alan Lou, Roberto Martín-Martín, Ruohan Zhang, Li Fei-Fei, Jiajun Wu. Task-Driven Graph Attention for Hierarchical Relational Object Navigation. *ICRA 2023*. [\[pdf\]](#).
6. Chengshu Li\*, ..., **Minjune Hwang**, ..., Silvio Savarese, Hyowon Gweon, Karen Liu, Jiajun Wu, Li Fei-Fei. BEHAVIOR-1K: A Benchmark for Embodied AI with 1,000 Everyday Activities and Realistic Simulation. *CoRL 2022*. **Best Paper Nominee** [\[pdf\]](#), [\[project page\]](#).
7. Michael McCoyd, Won Park, Steven Chen, Neil Shah, Ryan Roggenkemper, **Minjune Hwang**, Jason Xinyu Liu, David Wagner. Minority Reports Defense: Defending Against Adversarial Patches. *Security in Machine Learning and its Applications (SiMLA)*, 2020. **Best Paper Award** [\[pdf\]](#).

## TEACHING EXPERIENCE

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<b>CS 231N: Deep Learning for Computer Vision</b>	Stanford, CA
<i>Graduate Teaching Assistant</i>	<i>Mar. 2023 – Jun. 2023</i>
<b>EE 227BT: Convex Optimization</b>	Berkeley, CA
<i>Undergraduate Teaching Assistant</i>	<i>Aug. 2019 – Dec. 2019</i>
<b>CS 61A: Structure and Interpretation of Computer Programs</b>	Berkeley, CA
<i>Lab Assistant</i>	<i>Jan. 2018 – May. 2018</i>

## HONORS & FELLOWSHIPS

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<b>Viterbi School of Engineering Fellowship</b>	<i>Aug. 2024 – Jul. 2026</i>
<b>High Distinction in General Scholarship (Magna Cum Laude)</b>	<i>May. 2021</i>
<b>Summer Undergraduate Research Fellowship (SURF), UC Berkeley</b>	<i>May. 2020</i>
<b>Berkeley Undergraduate Scholarship</b>	<i>Aug. 2017 – May. 2021</i>

## SERVICES

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**Serving/Served as a reviewer** for CoRL, ICLR, ICRA, IROS, THRI, and workshops in RSS.

**Mentoring** a number of undergraduate students and summer interns at USC.

**Organizing UROS**, a student-run, cross-department robotics reading group and seminar series at USC.

**Serving as a PhD mentor** for USC CS Undergraduate Mentoring Program.

## EXPERTISES

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**Robotics:** ROS, TAMP, Optimal Control (LQR/LQG, MPC, MPPI, etc), Motion Planning, VLA Models

**Robot Policy Learning:** RL (DDPG, SAC, CQL, IQL), IL (BC, GAIL, ACT, Diffusion Policy), Inverse RL, PbRL

**Computer Vision:** Object Segmentation & Tracking, Diffusion Models, Vision Transformer, Sensor Calibration, SLAM

**Libraries:** PyTorch, Tensorflow, IsaacLab, ManiSkill, Robosuite, OMPL, OpenCV, Ray, cvxopt, SageMaker, Mujoco