Abhay Deshpande (He/Him)

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EDUCATION

University of Washington **Seattle, WA**
BS in Computer Science and BA in Math June 2024
GPA: 3.98/4.0
Completed graduate-level coursework in Machine Learning, Reinforcement Learning, and Robotics

PUBLICATIONS

A. Deshpande, L. Ke, Q. Pfiefer, S. Srinivasa, A. Gupta. "Generating Corrective Labels for Imitation Learning on Fine Manipulation". Under submission to IROS 2024.

L. Ke*, Y. Zhang*, **A. Deshpande**, S. Srinivasa, A. Gupta. "CCIL: Continuity-based Data Augmentation for Corrective Imitation Learning". ICLR 2024.

Y. Zhang*, L. Ke*, **A. Deshpande**, A. Gupta, S. Srinivasa. "Cherry Picking with Reinforcement Learning". RSS 2023.

EXPERIENCE

Personal Robotics Lab @ UW **Seattle, WA**
Undergraduate Researcher June 2021 – September 2021, April 2022 – Present

- Published multiple research papers to top robotics conferences
- Leveraged data-driven control algorithms like Reinforcement Learning and Imitation Learning to create state-of-the-art robotic policies that outperform humans and other baselines
- Extensively reviewed scientific literature, building wide base of experience within the field of robotics research
- Performed research in robot learning on multiple real-world platforms, including a chopsticks robot for fine manipulation and a miniature car for autonomous driving
- Experimented extensively with simulation platforms, using engines such as MuJoCo and PyBullet

NASA Jet Propulsion Labs **Seattle, WA**
Robotics Software Engineering Intern June 2023 – September 2023

- Built and maintained tools that supported the planning process for the Curiosity rover
- Automated target evaluations and safety checks for the rover's arm, speeding up planning process by >10x

Meta **Seattle, WA**
Software Engineering Intern June 2022 – September 2022

- Worked on the AI Security team, coordinating with other engineers to control access to business-critical AI assets
- Used C++ and Python to implement a Cython client for key service in AI infrastructure, handling ~20K QPS
- Created internal tools in React and a PHP backend that enabled more flexibility and insight into security controls

PROJECTS

Husky Robotics Team @ UW **Seattle, WA**
Software Lead October 2020 – Present

- Leader of the software subsytem, developing for the URC and CIRC rover challenges
- Led software team to accomplish long-term goals, finishing 2nd in both CIRC 2022 and CIRC 2023
- Substantially improved existing codebase, leading to >3x increase in unit tests and better code quality
- Reduced estimate error by 40% by implementing pose estimation algorithms like Extended Kalman Filtering
- Implemented sophisticated control solvers, greatly expanding the rover's manipulation capabilities

Hackathons **Seattle, WA**
Software Developer 2020 – Present

- Won 1st place in Hack'20. Built an Android app that enables users to avoid dense crowds during COVID-19
- Finalist in DubHacks 2020. Created a webapp that helps users be aware of news bias and diversify their sources
- Other projects include a desktop program to allow mute people to participate in video conferencing, and an Android app that uses statistics to identify easy-to-miss food sensitivities