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: 3.97/4.0
Completed graduate-level coursework in Machine Learning, Reinforcement Learning, and Robotics

PUBLICATIONS

A. Deshpande, L. Ke, Q. Pfiefer, A. Gupta, S. Srinivasa. "Data Efficient Behavior Cloning for Fine Manipulation via Continuity-based Corrective Labels". 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 Laboratory **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