Abhay Deshpande (He/Him)

a.deshpande012@gmail.com • 831-252-2429 • abhaybd.github.io • linkedin.com/in/abhaybd/

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

EXPERIENCE

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

- Submitted 2 research papers to top robotics conferences as a co-author
  - "Cherry Picking with Reinforcement Learning", RSS 2023.
  - "CCIL: Corrective Imitation Learning by Continuity-based Augmentation", Preprint.
- 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 platforms, including a chopsticks robot for fine manipulation and a miniature car for autonomous driving

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

Selected Personal Projects **Bellevue, WA**
Software Developer 2016 - Present

- Used Reinforcement Learning, using PyTorch, to train an agent to play Battleship, and created a webapp with React.js where users can play against it.
- Created a CNC whiteboard robot from scratch, using CAD to design the parts and 3D-printing them. Powered by an Arduino Uno, with desktop code written in Java communicating with embedded code written in C++.