Arhan Jain

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EDUCATION

University of Washington

MS, Computer Science

Jun 2025
BS, Computer Science

Jun 2024

- Awards: Purple & Gold Scholarship (\$16,800), Benjamin Franklin Scholarship (\$500), Dean's Scholar
- Relevant Coursework: Reinforcement Learning, Autonomous Robotics, Operating Systems, Distributed
 Systems, Networks, Data Structures & Parallelism, Multivariable Calculus, Linear Algebra, Discrete Math

EXPERIENCE

WEIRD Lab - University of Washington

Sept 2023 - Present

AI Robotics Researcher - 2 publications

Seattle, WA

- Trained a robot in simulation with 70% success in unseen real-world environments (SCAR, CoRL 2024)
- Led collaborative effort with 13 institutions to curate a 350 hour diverse robot dataset (<u>DROID</u>, RSS 2024)
- Evaluated Vision-Language Model robot policies to demonstrate world knowledge and generalization
- Explored human-in-the-loop model finetuning methods to help robot policies adapt to new environments

MIR Lab - Harvey Mudd College

Jan 2023 - July 2023

NLP & Signal Processing Research Intern - 1 publication

Claremont, CA

- Conducted machine learning and signal processing research for a \$500,000 NSF funded grant
- Proposed classical piano dataset for music research with 200,000 training fragments (PBSCSR, TISMIR 2023)
- Trained 20 composer classification models, with baselines including GPT2/3, vision transformers, and CNNs
- Invented an algorithm for audio tampering detection to reduce computation from exponential to quadratic

Arrcus, Inc. Jun 2022 – Aug 2022

Software Engineering Intern

San Jose, CA

- Optimized the analytics pipeline for a Linux network operating system by integrating real-time, on-device data processing; enhanced troubleshooting capabilities and reduced compute overhead by over 70%
- Protected thousands of customer devices with a performant anomaly detection system handling 400 Gbps
- Developed a light-weight machine learning model with continuous learning for real-time anomaly detection
- Employed a publisher/subscriber messaging with Redis to efficiently generate predictions on process' data

PROJECTS

StreetSmart: 1st Place Hackathon Winner: Navigation with Safety

Flask, IOS, Mobile Application

- Produced a mobile application overnight for safe navigation using Seattle police department crime data
- Constructed an undirected graph with safety score weights and used A* graph traversal to generate routes

Natural Language Robotics Control System: *Talk to robots!*

LLMs, Robotics, NLP

 Developed a zero-shot robotics reasoning engine through GPT 3.5 prompt engineering interfacing with a Roblox simulation environment for CSE 571 (Graduate-level Autonomous Robotics) Final Project

SKILLS

Languages: Python, C, C++, Java, Lua, Javascript, Typescript

Tools: AWS (Amplify, Cognito, Lambda, Gateway, DynamoDB, EC2), Docker, Git, Linux, Bash, PyTorch, TensorFlow, JAX, OpenCV, React, NoSQL Databases, Flask, Node.js, REST APIs, ROS, Polymetis, IsaacSim