Sujay Garlanka

Software Engineer

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Summary

A Software Engineer who has experience in robotics research through the development of action primitives using algorithmic and distributed reinforcement learning approaches in simulation. Also, has 3 years of experience working with enterprise scale data processing, developing APIs and building heavily used open source libraries for developers to interact with those APIs. Has full stack development experience as well. **A U.S. citizen and authorized to work for any U.S. employer.**

Experience

STANFORD VISION LAB — Graduate Student Researcher

May 2023 - August 2024 | Palo Alto/Los Angeles, CA

Detailed Write Up ...

- Developed functionality for the open-source robotics simulator, OmniGibson, built on Nvidia's IsaacSim simulation platform
- Developed algorithmic action primitives that use privileged information in the simulator for navigation and manipulation (grasping, placing inside/on top, opening and closing for prismatic and revolute joints)
- Developed action primitives using reinforcement learning. I helped create a distributed learning setup using gRPC and Docker. The setup includes a vector client environment running on a node for the RL learner that connects over the network to an N number of OmniGibson containerized environments on other nodes.
- Used a distributed setup to deploy RL experiments on a Slurm cluster with Stables Baselines 3 to train a policy and Weights and Biases to track policy and computational performance
- Work used in publications BEHAVIOR-1K [1] and MoMaGen [2]

BOX — Software Engineer

August 2019 - June 2022 | Redwood City, CA

- Co-lead the migration and re-architecture of Box API data collection and report generation of 3.8 to 114 billion rows of data daily from cron jobs to Apache Spark jobs. This decreases compute time per cluster and increases system fault tolerance.
- Developed and maintained the open source Box SDKs in Github to allow developers to integrate with Box's API. Over 1.3 million API calls are made every minute through these SDKs.
- Worked with the Java, .NET, Python, Node.js, iOS content, iOS preview SDKs and a CLI.
- Worked on networking in the iOS content SDK by rewriting the network layer to reduce the SDK size by 70%, reducing writes to disk and adding support for video streaming.
- Helped lead the intern interview hiring process, implemented tooling to streamline the process and made the take home project more inclusive and convenient for students.

Publications

[1] BEHAVIOR-1K: A HUMAN-CENTERED, EMBODIED AI BENCHMARK WITH 1,000 EVERYDAY ACTIVITIES AND REALISTIC SIMULATION

Chengshu Li, Ruohan Zhang, Josiah Wong, ... **Sujay Garlanka**, Li Fei-Fei, et al.

Best Paper Nominee in Conference on Robot Learning (CoRL), 2022 - Paper, Website

[2] MOMAGEN: GENERATING DEMONSTRATIONS UNDER SOFT AND HARD CONSTRAINTS FOR MULTI-STEP BIMANUAL MOBILE MANIPULATION

Chengshu Li, Mengdi Xu, Arpit Bahety, ... **Sujay Garlanka**, Li Fei-Fei, et al.

Robotics: Science and Systems (RSS) – Mobile Manipulation Workshop, 2025 - Paper, Website

Skills

PROGRAMMING

Python • Javascript • C++ • Java • Swift • SQL • MATLAB • Bash

LIBRARIES/FRAMEWORKS

ROS2 • PyTorch • NumPy • Stable Baselines 3 • gRPC • Apache Spark • oclif CLI Framework • Mocha Testing Framework

TOOLS/PLATFORMS

Git • Travis CI • Jenkins • IsaacSim • Slurm • Weights and Biases • Docker

Education

UNIVERSITY OF SOUTHERN CALIFORNIA

Master of Science in Computer Science

Aug. 2022 - Aug. 2024 | Los Angeles, CA

DUKE UNIVERSITY

Bachelor of Science in Electrical and Computer Engineering

Aug. 2015 - May 2019 | Durham, NC

SELECTED COURSEWORK

Robotics and Dynamics • Autonomous Cyber-Physical Systems • Machine Learning • Artificial Intelligence • Analysis of Algorithms • Operating Systems • Advanced Computer Architecture • Embedded Systems • Ordinary and Partial Differential Equations

References

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