Sujay Garlanka

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

Education

University of Southern California Los Angeles, CA
Masters of Science in Computer Science *Aug. 2022 – Aug. 2024*
Duke University Durham, NC
Bachelor of Science in Electrical and Computer Engineering *Aug. 2015 – May. 2019*

Relevant Coursework: *Intro to Robotics, Robotics and Dynamics, Autonomous Cyber-Physical Systems, Machine Learning, Embedded Systems*

Experience

Stanford Vision Lab May 2023 - August 2024
Student Researcher *Palo Alto/Los Angeles, CA*

- 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. 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 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
- Paper including my work: https://arxiv.org/pdf/2403.09227

References: Cem Gokmen, Ph.D @ SVL, cgokmen@stanford.edu (Primary) | Rouhan Zhang, Postdoctoral Researcher @ SVL, zharu@stanford.edu (Secondary)

Technologies: Python, IsaacSim, gRPC, Slurm, Stable Baselines 3, Weights and Biases

More Details ...

Box August 2019 - June 2022
Software Engineer *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.

Technologies: Apache Spark, Scala, Java, .NET, Python, Node.js, Swift, SQL

More Details ...

Box May 2018 - July 2018
Software Engineer Intern *Redwood City, CA*

- Built an open source command line tool for developers that accesses 200 of Box's API endpoints
- Incorporated JSON Web Token (JWT) authentication in the CLI that allows users to securely authenticate with Box to make API calls
- Included features such as interactive CLI with prompting and bulk input/bulk output
- Tool was publicly released and handles around 10k requests per minute

Technologies: Node.js, oclif CLI Framework, Mocha Testing Framework

More Details ...

Technical Skills

Languages: Python, C++, Node.js, Java, .NET, Swift, SQL, MATLAB, bash
Frameworks/Tools: IsaacSim, Slurm, Stable Baselines 3, Weights and Biases, gRPC, Apache Spark, oclif CLI Framework, Mocha Testing Framework, Travis CI, Jenkins