

Sam Harreschou Full Stack Engineer

📍 Santa Monica, CA [in /sam-harreschou](#) [✉ samharreschou2@gmail.com](mailto:samharreschou2@gmail.com) [🔗 https://samharreschou2.github.io/](https://samharreschou2.github.io/) [🌐 /samharreschou2](#)

Professional Experience

10/2022 – present
Pasadena, CA

Software Engineer - Robotics Test Automation, *Miso Robotics* [🔗](#)

- Led systems engineering for Sippy [🔗](#), the world's first POS-integrated automatic beverage dispenser and sealer
- Drove four-fold improvement in Sippy [🔗](#) throughput using multi-threading
- Wrote ML enabled CV model for Flippy 2 [🔗](#) to compensate for basket deformation (Meta Segment Anything, OpenCV)
- Wrote novel pouring algorithm, driving five-fold accuracy improvement
- Wrote computer vision software to gauge cup fill level within 5 grams using Meta SAM and RNN trained in Pytorch
- Designed and automated Sippy [🔗](#) subsystems reliability testing via Python and Bash scripting to progress from proof of concept to alpha stage
- Designed and architected automated testing platform for ROS 2 simulations using Terraform and AWS Batch, Step Functions, Code Build, EC2, S3 among others

02/2019 – 10/2021
Berkeley, CA

Health & Safety Engineer, *Lawrence Berkeley National Lab* [🔗](#)

- Built an end-to-end ETL pipeline for air quality monitoring/forecasting which integrates several weather APIs' data to save management resources
- Implemented a Pub/Sub system using Google Cloud Functions/Google Cloud Scheduler to run a Python script that updates the BigQuery database every minute
- Imported live measurement data from legacy monitoring equipment to the cloud using Raspberry Pis, webcams, and computer vision software, lowering hazard response times
- Utilized OCR solutions including Google Cloud Vision, pytesseract, & TensorFlowLite CNNs

12/2014 – 02/2019
Santa Monica and Berkeley, CA

Project Manager, *Environmental Inspection Services* [🔗](#)

- Conducted, planned, and supervised environmental hazard characterization projects
- Interfaced with clients for sales calls and questions; led client acquisition, proposal writing, and report writing activities

Technical Experience

06/2022 – present
Santa Monica, CA

Co-creator, Software Engineer, *Conifer* [🔗](#)

- Co-created Conifer, an open-source framework that simplifies parallelizing Cypress tests on AWS infrastructure for local development
- Built a robust and easy-to-use CLI with Node.js, Commander.js, and Inquirer.js
- Used AWS CDK to allow users to dynamically deploy Conifer's AWS infrastructure with just one command (ECR, ECS, EC2, S3, DynamoDB)
- Utilized AWS SDK for JS within the user's containerized application to persist test artifacts to cloud storage services in realtime (S3 & DynamoDB)
- Wrote a multi-stage algorithm for effectively allocating test files to parallelized nodes (on EC2)
- Reduced local Cypress test suite run time by up to 3.7x via parallelization & optimized test splitting
- Created a live dashboard for visualizing test results with React, Express, and TailwindCSS
- Collaborated remotely with a team of engineers, organizing daily stand-ups, code reviews, and pair programming sessions
- Co-authored case study, incl. research on parallelizing E2E testing, Conifer's use case, design decisions, & tradeoffs

11/2021 – 09/2022
Santa Monica, CA

Software Engineer Capstone Program, *Launch School* [🔗](#)

- Develop open-source web applications with technologies such as Node, PostgreSQL, React/Redux, JavaScript, Express, HTML, and CSS
- Mello: A project management board app similar to Trello (MongoDB, Express, React/Redux, Node.js)
- Shopping Cart: A database-backed e-commerce app (React, Redux, MongoDB, Node.js)
- RequestBox: A tool similar to RequestBin for inspecting webhooks (Node.js, PostgreSQL, MongoDB, Express)
- ToDo List: Simple todo list manager following the MVC pattern. Built with Node, Handlebars, jQuery, & an Express API

Skills

Languages

JavaScript, Python, SQL, MATLAB, HTML, CSS, Bash, Golang, TypeScript

Frameworks/Libraries

React, Redux, Express, Jest, Cypress, scikit-learn, Google Apps Script, Handlebars, pandas, NumPy, Streamlit, Selenium, Pytorch, Tensorflow

Technologies

Git / Github, Docker / Docker Compose, MongoDB, PostgreSQL, RESTful API, Postman, Raspberry Pi, Edge Impulse, Jira, Confluence

Cloud

AWS (ECS, EC2, S3, DynamoDB, CDK, SDK, Lambda, AWS Batch, Step Functions, Code Build), GCP (BigQuery, Cloud Functions, Vision AI), Terraform, AWS Code Pipeline, Github Actions

Education

05/2021

Master of Engineering in Nuclear Engineering, UC Berkeley College of Engineering [🔗](#)

08/2018

Bachelor of Science in Nuclear Engineering, UC Berkeley College of Engineering [🔗](#)

Certificates

Project Management Professional [🔗](#) (PMP #2745287)

Passed CA Board for Professional Engineers Mechanical Engineering PE Exam [🔗](#) (April 2020) | **Certified Industrial Hygienist** [🔗](#) (CIH #11899)

Certified Safety Professional [🔗](#) (CSP #35608) | **Certified Hazardous Materials Manager** [🔗](#) (CHMM #24529)