Eric Phuong

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Education

University of California, Santa Cruz

Bachelor of Science in Computer Science, GPA: 3.8

Relevant Coursework: Distributed Systems, Software Engineering, Artificial Intelligence, Machine Learning: Deep Learning, Data Structures and Algorithms, Computer Systems Design, Computer Architecture, Database Systems, Analysis of Algorithms, Mobile Development, Web Development

Technical Skills

Languages: C/C++, Python, JavaScript/TypeScript, PostgreSQL, Go, Bash
Frameworks: React, Node.js, Next.js, Vue.js, py4web, ROS2
Developer Tools: Git, Docker, Jira, AWS
Libraries (Beginner): PyTorch, Scikit-learn

Experience

Software Engineer Intern Jan. 2025 – Current

Arsenal Biosciences *Remote*

- Designed and implemented 20+ RESTful API endpoints in Go, integrating PostgreSQL queries enabling efficient experiment management and data retrieval for 100+ cancer researchers
- Created 7 responsive React components to visualize experiment and plate data, improving frontend code reuse and enabling rapid UI development
- Reduced deployment time by implementing a CI/CD pipeline using GitHub Actions and AWS ECS Fargate to auto-deploy Docker containers on main branch pushes

Tutor & Grader Oct 2023 – Current

University of California, Santa Cruz *Santa Cruz, CA*

- Host office hours assisting 150+ students per quarter with programming assignments and exam preparation. This also includes grading midterm and final exams while providing feedback
- Course History: CSE101 (Data Structures and Algorithms, C/C++): Fall 2023, Winter 2024, Winter 2025; CSE13s (Computer Systems and C Programming): Spring 2024; CSE20 (Programming in Python): Spring 2025

Software Engineer Intern June 2024 – Sept. 2024

FarmX *San Rafael, CA*

- Developed ROS2 nodes in both Python and C++ for robotic perception and control. Optimized performance by porting select nodes from Python to C++, improving execution speed and efficiency
- Developed a Python curses-based GUI that reduced robot testing time by 30% by abstracting complex system data into an intuitive interface; integrated multithreaded cloud upload of mission logs and ROS2 bag files, enabling automatic post-run data sync
- Evaluated and integrated ZED X stereo cameras on a robotics platform for perceptive navigation, comparing its performance with prior cameras; setup documentation for ZED SDK and installation for future onboarding
- Contributed to testing and monitoring infrastructure for the Autonomy team, enabling subsystem health tracking, fault detection, and logging

Undergraduate Student Researcher April 2023 – June 2023

University of California, Santa Cruz *Santa Cruz, CA*

- Created and maintained 4+ Python and Bash scripts to automate the collection, formatting, and evaluation of 10,000+ GPT-3.5 and GPT-4 responses on the MATH dataset
- Co-authored a paper titled *"Assessing the Impact of Prompting Methods on ChatGPT's Mathematical Capabilities"* published on arXiv (Dec 2023)

Projects

CausalKVStore | *FastAPI, Python, asyncio, Docker, Distributed Systems* Feb. 2025 - March 2025

- Built a distributed key-value store using **consistent hashing** and **shard-based partitioning** to evenly distribute keys and support dynamic replica membership
- Synchronized replicas using a **gossip protocol** with httpx and asyncio for eventual consistency and non-blocking background tasks
- Implemented **causal consistency** via vector clocks and per-key dependency metadata, ensuring correct read/write ordering under concurrent operations