ERIC ZHOU

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EXPERIENCE

Volunteer Software Engineer at ***Open Paws AI*** *Present*

- Building ML pipeline to generate synthetic feedback for Label Studio by having a Gemini on GCP Vertex simulate diverse personas (human and nonhuman) evaluating farmed animal advocacy content

Career Break *Sep 2022 - 2024*

- Used this time to travel, explore different lifestyles, and understand myself better and what I want to contribute to the world.
- Backpacked 35+ countries. Some things I did: 200 hours of yoga teacher training, AOW SCUBA diving, summited Kilimanjaro, sat for 10 days of Vipassana meditation, and touched foot on Antarctica.

Software Engineer at ***Stripe*** *Aug 2021 - Sep 2022*

- On the Risk team preventing risky and unauthorized transactions in the payments critical path.
- Working deep in legacy Ruby payments codebase to fix issues and convert to modern Java backend.

Software Engineer at ***Microsoft*** *2019 - 2021*

- Azure Frontdoor's next generation dataplane using Nginx on Linux: wrote spartan C code to be super-scale, light-weight and deterministic, designed to minimize bytes per cycle with extreme stability.
- Designed an entirely new error type and introduced it across the entire existing codebase, **reduced the service startup time by 2x** by eliminating redundant DNS resolutions, made the pool allocator and other core components of Nginx thread safe, maintained our Kubernetes orchestration and more.
- Wrote an HTTP multipart data parser from scratch, implemented custom rule config translation, implemented several transformation functions for our WAF evaluation engine, and more.
- Azure Storage: I wrote code to allow comparison of compressed rows in anchor tree data pages without first decompressing, **speeding up table lookups by 3x**.

VLSI Intern at ***NVIDIA*** *Summer 2018*

- Ran self-heating experiments with Cadence Voltus on an unreleased 7nm graphics card.
- Showed with simulated results that self-heating effects don't significantly impact the lifetime of the chip.

Software Development Engineer Intern at ***Amazon*** *Summer 2017*

- Developed an internal tool for Amazon Fresh enabling safe and quick updates to merchant schedules, going from a manual process that could take **over a day to just a few minutes**.

NumPyWren at ***RISELab*** with Professor Jonathan Ragan-Kelley *Fall 2018*

- Enabled multicore machines running serverless functions to more closely approximate the efficient communication patterns of a traditional MPI cluster by caching data.
- Wrote a highly concurrent software cache in C++ that caches data from an object store like Amazon S3.

uGSI for ***CS162 (Operating Systems)*** at UC Berkeley *Fall 2018 - Spring 2019*

- Along with typical TA responsibilities, I evaluated many student operating system design documents.

SKILLS

Languages C • Python • Rust • Java • Go

Side Projects Built my own toy operating system in C and a web application for splitting the grocery bill with my roommates in Go. Wrote a Python program to add EXIF data to 30,000+ images when migrating from Google Photos to iCloud.

EDUCATION

University of California, Berkeley *August 2015 - May 2019*

B.S. Electrical Engineering and Computer Sciences ***GPA** 3.95/4*

Honors Honors to Date • Dean's List • Eta Kappa Nu • Tau Beta Pi

Relevant Courses CS162 Operating Systems (A+) • CS262A Advanced Topics in Computer Systems • CS164 Programming Languages and Compilers • CS161 Computer Security • CS186 Databases • CS170 Algorithms • CS189 Machine Learning • EECS151 Digital Design and Integrated Circuits (A+)