Zhiyan Foo
github.com/zhiyanfoo

zhiyanfoo@gmail.com
+1 519 781 2160

Programming Skills

Languages – Golang, Python, Typescript, Haskell, Rust, C/C++

Tech/Frameworks – Kubernetes, Docker, Concourse, React/Redux, AWS, Cilium, Prometheus, Elasticsearch

Experience

Datadog NYC, NY (Remote)
Software Engineering Intern (Traffic Team) *Jan 2021 - April 2021*

- Worked on Datadog's cross-cluster service discovery platform.
- Built tools to stress and loadtest cilium (kubernetes cni plugin).
- Built tools to write and debug cilium network policies.

Tulip Interfaces Boston Greater Area, MA
Software Infrastructure Engineering Intern *Sept 2019 - Dec 2019 and May 2020 - August 2020*

- Reworked deployment to use a distributed build process (via Concourse). Led to 50% reduction in deploy time for microservices (20m to 10m) and enabled multiple parallel builds.
- Built a new Go service that allowed modifications of our customer's Kubernetes ingress. This allowed customers to filter traffic to their sites.
- Permanently stored our elasticsearch logs in S3 and partitioned them to be queryable by AWS Athena.
- Standardized builds on Buildkit across all our services, away from default Docker and Rocker.
- Researched using vertical pod autoscaling to automate resource allocation for statefulsets.

Setter Toronto, ON
Rust Developer Intern *Jan 2019 - April 2019*

- Rewrote critical parts of the Node backend in Rust, e.g. real-time quote editor and payment endpoints.
- Helped implement CI/CD (Travis, Docker) for microservices and began the process of moving from GCP to AWS.

Quantcast Singapore
Software Engineering Intern *March 2017 - July 2017*

- Cut down the CPU time of a real-time bidding configuration ETL pipeline by $\sim 30\%$.
- Used indirection to reduce memory usage and number of sorts needed to shard black/whitelisted domains.

Open source and Projects

oplogtoredis: Enabled TLS support when connecting to redis. `github.com/tulip/oplogtoredis/pull/26/files`
Zen: An alternative to python's virtualenvwrapper. `github.com/zhiyanfoo/zen`

Additional Coursework

Real Analysis, Convexity and Optimization Harvard Extension School

Upper-division pure math course focused on optimization problems with convex sets, normed infinite-dimensional vector spaces, and convex functionals.

Learning From Data Caltech Telecourse

Machine Learning Course: `github.com/zhiyanfoo/caltech-machine-learning/`

Education

University of Waterloo Waterloo, ON
Computer Science with a Pure Math minor *August 2017 – Present*