Zhiyan Foo
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Programming Skills

Languages – Python, Golang, Typescript, Haskell, Rust, Lisp

Tech/Frameworks – Kubernetes, Docker, Concourse, React/Redux, SQL, AWS

Experience

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.
- Increased on-call alerting coverage via Prometheus and Elasticsearch. Standardized builds on Buildkit, away from default Docker and Rocker. Experimented with vertical pod autoscaling to automate resource allocation on our Kubernetes cluster.

Setter Toronto, ON
Backend 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 investigate moving from GCP to AWS.

Got It Hanoi, VN
Software Engineering Intern *May 2018 - August 2018*

- Worked on the companies's routing algorithms, the most technically involved part of the companies stack. Extended the system so we could perform real-time matching between professionals for mentoring.

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

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

Open source and Projects

oplogtoredis: Enabled TLS support for 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/`

Complete list of additional coursework done can be found at `zhiyanfoo.github.io/learning/`.

Education

University of Waterloo Waterloo, ON
Pure Math and Computer Science *August 2017 – Present*