Pinglei Guo

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Work Experience

Google: Software Engineer - Batch job on Kubernetes Sunnyvale, CA May 2019 - Dec 2019

- Implemented gRPC server and client in Go and Python, deployed on Borg and Kuberentes.
- Troubleshoot and reduced startup latency of debug session from 2min to 40s, created metrics for performance regression.

PayPal: Software Engineer - Multi cluster container orchestration platform in Go San Jose, CA May 2018 - May 2019

- Worked on internal multi cluster container orchestration platform using Apache Mesos, Aurora and Docker.
- Built REST API and cli tools in Go for collecting log and metrics along with distributed tracing.
- Introduced new deploy strategy (e.g. canary) and implemented readiness gate, reduced rollout failure rate by 20%.

PayPal: Software Engineer Intern - Admin Server & Dashboard in Go San Jose, CA June 2017 - Sep. 2017

- Built API gateway with RBAC for internal container orchestration platform using Go.
- Enhanced dashboard using Angular 4, wrote a new dynamic table component from scratch.

Dongyue Web Studio: (Part-time) Full stack web developer & Tech lead Shanghai, China Sep. 2013 – Jan. 2016

- Led web and mobile team. Refactored online event booking website tongqu.me, used by thousands of students.
- Utilized Redis as cache and rate limiter, increased QPS by 120%, reduced database load by 40%, filtered out most bot traffic.
- Refactored jQuery codebase using AngularJS, increased homepage loading speed by 60% using Ajax and pre-render.

Project Experience

Go util library collection github.com/dyweb/gommon Open source side project March. 2018 – Present

- Built a high performance structured logging library with fine grained control across libraries.
- Merged template rendering, static asset embedding into a single generator library as replacement for go:generate.

Distributed database benchmark system github.com/benchhub UCSC Nov. 2017 – March. 2018

- Designed a specification for running distributed database benchmark.
- Built a queue based scheduler to run distributed database and workload generators.
- Stored benchmark results in time series databases and metadata in relation databases.

Distributed Time Series Database github.com/xephonhq/xephon-k UCSC Nov. 2016 – Present

- Implemented a distributed time series database on top of Cassandra in Go. Support both JSON and Protobuf via HTTP/2.
- Designed a columnar format modeled after Parquet and InfluxDB with high compression and less write amplification.
- Created benchmark suite for Xephon-K, OpenTSDB, KariosDB, InfluxDB using a generic client for different TSDB.
- Surveyed popular TSDB design and implementation, made an interactive online report called awesome-time-series-database.

GPU accelerated in-memory time series processing github.com/at15/ts-parallel UCSC Apr. 2017 – June 2017

- Expanded benchmark suite for different C++ GPU computing framework on CUDA and OpenCL, Thrust, Boost, ArrayFire.
- Implemented OLAP queries like top-K, group by for multi dimensional time series data on both CPU and GPU backends.

Education

MS. Computer Science	University of California Santa Cruz	GPA 3.9	Sep. 2016 – Mar. 2018
BS. Materials Science	Shanghai Jiao Tong University	GPA 3.3	Sep. 2012 – June 2016

Skills

Language	Go, C++, Rust, JavaScript, Java, Python, SQL, PHP, Shell
Database	Cassandra, MySQL, Elasticsearch, MongoDB, Redis, KairosDB, OpenTSDB, InfluxDB, Prometheus, Graphite
DevOps	Docker, Kubernetes, Mesos, Aurora, Terraform
Framework	Vue, Angular, Laravel, Spring, Dropwizard, Express, Rails, CUDA