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WORK EXPERIENCE

PayPal: Software Engineer 2 - Container Orchestration system in Go   San Jose, CA   May 2018 - Present

- Working on internal multi data center container orchestration platform using Apache Mesos, Aurora and Docker.
- Introduced new deploy strategy and implemented dynamic internal system check during deploy.
- Fixed race condition during deploy by merging user and internal events in state machine.
- Built REST API and cli tools in Go for collecting log and metrics along with distributed tracing.

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, used by operation team to troubleshoot Java, Node app and manage cluster itself.
- Introduced full text search using Apache Solr, wrote an open sourced Go client with cleaner API.

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

- Led web and mobile team. Refactored online ticket booking application tongqu.me in 3 month, used by 20,000 students .
- Built high traffic website and REST API using **PHP** and **MySQL**, reduced database contention using job queue and cache.
- 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 logging library with fine grained log level control across dependencies
- Implemented data structure missing from standard library, i.e. set, tree
- Merged template rendering, static asset embedding into a single generator library and binary as replacement for go:generate

Distributed database benchmark framework   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 higher compression and less write amplification.
- Created benchmark suite for Xephon-K, OpenTSDB, KariosDB, InfluxDB and 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, JavaScript, Java, C++, Python, SQL, PHP, Shell
Database	Cassandra, MySQL, Elasticsearch, MongoDB, Redis, KairosDB, OpenTSDB, InfluxDB, Prometheus, Graphite
DevOps	Docker, Kubernetes, Mesos, Aurora
Framework	Angular, Vue, Laravel, Spring, Dropwizard, Express, Rails, CUDA, Hadoop