HAI-LIANG **HAL** WANG

Technical architect focused on delivering scalable and reliable solutions that bring strategic vision to reality. Senior backend developer with specialty in distributed systems and various algorithms. Go expert, open source author and contributor of dozens of projects

💼 EXPERIENCE

Present | Sep 2020

Principal Engineer
Ninety Percent of Everything 📍 London

- Built a position interpolation service with rhumbline algorithm
- Solved data quality issues with Unscented Kalman Filter
- Designed a Go package for Kafka streaming applications with high scalability, throughput and robustness
- Built service chassis for data science Python models and streaming services

Sep 2020 | Dec 2018

Lead Developer
Ninety Percent of Everything 📍 London

- Maritime voyage estimator (TCE and time charter) for liquid and dry cargo vessels
- Implemented data cleansing Kafka stream service based on JEXL expression filter
- Name lookup algorithm: word-wise prefix search based on suffix array
- Geometric algorithms: shortest path and geo-fencing in polygonal domain on sphere

Oct 2018 | Sept 2018

Senior Developer
StorageOS 📍 London

- Helped to bring StorageOS to v1.0.0, which is enterprise persistent storage for containers, supporting fast orchestration and high availability
- Fixed a panic issue in logrus (PR #857)
- Troubleshot goroutine and memory leaks
- Designed a goroutine orchestration framework for graceful error handling

Aug 2018 | Mar 2018

Senior Architect at Tik Tok
ByteDance 📍 Shanghai

- Optimized Discovery Page by porting it from Python to Go: latency from 839ms to 187ms and error rate from 1.3% to 0.0004%
- Designed and implemented I18N service, efficient server and client that provide every other service multilingual templates

2018 | 2015

Backend Lead of R&D
Appcoach 📍 Shanghai

- Led the development of Appcoach Market: a multi-regional, horizontally scalable and fault tolerant ad network
- Built API with high availability, high throughput and low latency (latency < 10ms and QPS > 2K per core)

2015 | 2011

PhD Student of Systems Engineering
Xi'an Jiaotong University 📍 Xi'an

- Designed a concurrent, simple and extensible web scraping framework (h12.io/getgo) to collect data from online social networks

CONTACT INFO

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🌐 h12.io
○ github.com/h12w
in hal-wang

SKILLS

System Architecting
Scalable System Design
Reliability Engineering
Performance Optimization

Writing Clean Code
Requirements Analysis
Unit Testing
Refactoring

Languages
Go
Python
Java
C#
C
SQL

Microservices
gRPC/GraphQL/Thrift
Docker/Kubernetes
Consul/etcd

Cloud Computing
Amazon Web Services
EC2, S3, ELB
MySQL, PostgreSQL
CloudFront, Route53

Realtime Analytics
Kafka
Grafana
MongoDB
Cassandra
BadgerDB
h12.io/sej

- Developed a SOCKS client package (h12.io/socks) for parallel web crawling, which has gained over 200 stars on Github
- Published *Exploring the Efficiency and Mechanism of Whistleblowing System on Social Networking Site* on IEEE ICC 2014 Conference

Software Engineer at SPSS Data Collection

2011
|
2009

IBM   📍 Xi'an

- Rewrote visual filter editor of survey reporting with recursive descendant parser and functional pattern matching

Software Engineer at Wafer Testing Team

2009
|
2006

Qimonda   📍 Xi'an

- Developed testing system for DRAM wafer in C++ and assembly

OPEN SOURCE

2018

Run

h12.io/run

- mini-framework for graceful goroutine orchestration
- goroutine pool and leak prevention, throttle and logging

**2017
|
2015**

json-schema

h12.io/json-schema

- a generator from JSON Schema specification to Go struct

**2017
|
2014**

GSpec

h12.io/gspec

- An expressive, concurrent and extensible Go test framework

2015

Aliyun-oss-go-sdk

github.com/aliyun-beta/aliyun-oss-go-sdk

- Winner in the contest for developing Alibaba Cloud OSS Go SDK

2014

Gombi

h12.io/gombi

- combinator-style scanner and parser in Go
- DFA scanner for Go syntax is 50% faster than the official package

EDUCATION

**2007
|
2004**

Master of Science in Systems Engineering

Xi'an Jiaotong University

- MS Thesis: *An Efficient Approach to Spam Filtering and its Implementation in Email System*

**2004
|
2000**

Bachelor of Science in Information Engineering

Xi'an Jiaotong University

- Won First Award of the National Undergraduate Electronic Design Contest