HAI-LIANG **HAL** WANG

Technical architect focused on delivering scalable and reliable solutions that bring strategic vision to reality. Veteran developer with a speciality 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 global weather service on top of 2TB grib2 files per year
- Rewritten a legacy reporting service with comprehensive calculations from Java to Go
- Re-architected data aggregation pipeline for high-frequency vessel data
- Implemented a data quality evaluation service for vessel status data
- Built a position interpolation service with rhumbline algorithm
- Designed a Go package for Kafka streaming applications with high scalability, throughput and robustness

Sep 2020 | Dec 2018

Lead Developer
Ninety Percent of Everything   📍 London

- Solved data quality issues with Unscented Kalman Filter
- Built service chassis for data science Python models and streaming services
- Implemented data cleansing Kafka stream service based on JEXL expression filter
- Maritime voyage estimator (TCE and time charter) for liquid and dry cargo vessels
- 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

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
- Wrote New Backend Engineer Orientation Wiki Portal, helping new employees cope with their work challenges

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)

CONTACT INFO

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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
SQL

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

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

Parser & Generator
h12.io/gombi
h12.io/ua
h12.io/xsd
h12.io/html-query
h12.io/json-schema
h12.io/schemata

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 　• Published *Exploring the Efficiency and Mechanism of Whistleblowing System on Social Networking Site* on IEEE ICC 2014 Conference

2011 | 2009	●	**Software Engineer at SPSS Data Collection** IBM 　　　　　　　　　　　　　　　　　　　　　　**♀ Xi'an** 　• Rewrote visual filter editor of survey reporting with recursive descendant parser and functional pattern matching
2009 | 2006	●	**Software Engineer at Wafer Testing Team** Qimonda 　　　　　　　　　　　　　　　　　　　　**♀ Xi'an** 　• Developed testing system for DRAM wafer in C++ and assembly

OPEN SOURCE

present | 2018	●	**Run** h12.io/run 　• mini-framework for graceful goroutine orchestration 　• goroutine pool and leak prevention, throttle and logging
present | 2012	●	**Socks** h12.io/socks 　• SOCKS protocol client package with over 400 stars on Github
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

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