

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
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Dec 2018

Lead Developer

Ninety Percent of Everything

📍 London

- Made critical technical decisions and built backend services from scratch for Chartering product
- Maritime voyage estimator for liquid and dry cargo vessels
- Geometric algorithms: shortest path and geo-fencing in polygonal domain on sphere
- Name lookup algorithm: word-wise prefix search based on suffix array

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
- Refactored licensing API and wrote product documentation for licensing
- Fixed a panic issue in logrus (PR #857)
- Solved gossip health detection failure under disconnected networks
- Troubleshooted goroutine and memory leaks

Aug 2018
|
Mar 2018

Senior Architect at Tik Tok/Musical.ly

ByteDance

📍 Shanghai

- Tik Tok/Musical.ly is a popular music video app with 200M+ DAU
- 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
- Organized stand-up meeting every morning in a team of 8 developers to track work in progress and technical issues

2018
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2015

Backend Lead of R&D

Approach

📍 Shanghai

- Led the development of Approach 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)
- Wrote a Kafka Client (h12.io/slide/kpax) for troubleshooting and tracing message delivery
- Implemented our own distributed messaging system (h12.io/sej) for fine-grained control over latency and reliability
- Developed instant reporting capability with distributed real-time analytics based on SEJ and BadgerDB

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
C#
C
SQL

Microservices

gRPC/GraphQL/Thrift
Docker/Kubernetes
Consul/etcd

Cloud Computing

Amazon Web Services
EC2, S3, ELB, RDS MySQL
CloudFront, Route53

Realtime Analytics

MongoDB
BadgerDB
h12.io/sej
Kafka

Parser & Generator

h12.io/gombi
h12.io/ua
h12.io/xsd
h12.io/html-query

- Developed a SOCKS client package (h12.io/socks) for parallel web crawling, which has gained over 200 stars on Github
- Wrote a functional-style HTML DOM parser in Go (h12.io/html-query) to extract structured data from web pages efficiently
- Published *Exploring the Efficiency and Mechanism of Whistleblowing System on Social Networking Site* on IEEE ICC 2014 Conference

h12.io/json-schema
h12.io/schemata

Web Technologies

HTML
CSS/SASS
JavaScript/React
Markdown

2011
|
2009

Software Engineer at SPSS Data Collection

IBM

📍 Xi'an

- Data Collection is used by customers worldwide (like Nielsen and P&G) to analyze people's attitudes, preferences and opinions
- 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
- Designed a Ruby DSL to specify test instructions that can be translated for both simulators and test machines

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
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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