

BAIHU QIAN

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EXPERIENCE SUMMARY

I am a Software Engineer and Architect with extensive hands-on experience in design, implementation, operation, and optimization of cloud-scale, highly-available distributed software services. Proficient in:

- Service-oriented architecture and microservice architecture;
- High-availability (HA) and scalability best practices;
- Large-scale distributed software system;
- RESTful API design;
- High performance, event-driven and asynchronous software systems.
- Architect and build software systems in the cloud.
- DevOps, operational excellence, and service monitoring best practices.

I am an Engineering Lead and Project Manager with an impeccable record of delivering high-impact, large-scale, and complex projects across teams and organizations.

EMPLOYMENT

HyperPlane and New Service, Amazon Web Services

Software Development Engineer II

Herndon, VA

September 2017 - Present

Reveiled at *re:Invent 2017*, [AWS HyperPlane](#) is the group of highly-scalable software-defined network services. I am the lead control plane engineer of the Layer-3 HyperPlane platform and a new AWS service powered by HyperPlane.

- Architect and implement the control plane for HyperPlane: API service, DynamoDB data store, provisioning and resource management service, and health monitoring system.
- Key member of the new product design group. Responsibilities include API and User Experience (UX) design, documentation and cost modeling. Actively involved in product design and business discussions.
- Lead a team of 5 engineers to deliver API service, provisioning, and AWS management console for the new AWS service. Prioritize tasks to minimize blockers and integration risks with other teams.
- Develop other engineers, improve engineering standards and promote best practices.

VPN, Amazon Web Services

Software Development Engineer II

Software Development Engineer I

Herndon, VA

February - September 2017

May 2015 - February 2017

[AWS VPN service](#) provides highly-available managed connectivity between on-premise networks and VPC using industry-standard IPSec technology over the Internet. It is the foundational Infrastructure-as-a-Service (IaaS) for hybrid cloud and multi-cloud in AWS. The 2nd generation software-defined solution provides high scalability, faster feature velocity, and better Quality-of-Service.

- Deliver public features. Responsibilities include feature definition, API design, task planning and estimation, implementation, project management, and cross-team communication. Features launched in 2017 are:
 1. [Configurable Amazon-side ASN on Virtual Private Gateway](#);
 2. [VPN Custom PSK, Inside Tunnel IP, and SDK update](#);
 3. [VPN support for VPC expansion](#).
- Optimized the performance, efficiency, and scalability of the provisioning service.
- Optimized the distributed routing engine for better performance, lower latency, and higher efficiency.

- Optimized MySQL database queries and access usage.
- Improved overall service availability, quality of service, latency, and error rates. Improved resiliency to dependency failures.
- Hire and mentor engineers and interns in the team.

SIDE PROJECT

Robinhood Portfolio Management

August 2017 - Present

MerryMen provides automatic portfolio management for Robinhood at a very low cost, while popular financial management apps (e.g., Mint, PersonalCapital) do not support Robinhood.

- It is a Python application is hosted on AWS Lambda, It leverages AWS Secrets Managers to manage credentials, and sends daily reports with Amazon Simple Notification Service (SNS).
- Google Sheet is used for data persistence, analysis, and visualization.
- Apex and Terraform are used to manage Lambda functions.

TECHNICAL SKILLS

Programming Language	Scala, Java, Python, Go, Ruby, C
Framework	Akka, Spring
Web Technology	Ruby on Rails, AngularJS, GWT, Node.js, Twisted
Logging & Testing	Log4j, JUnit, ScalaTest, Mockito, Hamcrest
Tools	Maven, Ant, Git, Distutils
Relational Database	MySQL, SQLite, Squeryl, SQLAlchemy, JDBC
NoSQL Database	DynamoDB, HBase
Data Warehouse	Redshift
Data Analytics	ElasticSearch, Hadoop, MapReduce, Hive, Spark
Operating System	Major Linux distributions (Ubuntu, Amazon Linux, RHEL), MacOS

CERTIFICATION

- AWS Certified Solutions Architect - Associate April 2018
- AWS Certified Developer - Associate December 2017
- Juniper Networks Certified Associate - Junos February 2016

EDUCATION

Carnegie Mellon University

Pittsburgh, PA

M.Sc. in Electrical & Computer Engineering

August 2013 - May 2015

Zhejiang University

Hangzhou, China

B.Eng. in Information & Communication Engineering

September 2009 - July 2013

Summa cum laude, Chu Kochen Honors College.