BAIHU QIAN

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EXPERIENCE SUMMARY

Full-stack Software Engineer and Architect experienced in design, implementation, operation, and optimization of large-scale, highly-available distributed services in the cloud. Proficient in:

· Microservice architecture design and implementation;
· RESTful API design;
· Stateful/stateless distributed software system, high-availability (HA) and scalability best practices;
· Design, implementation and optimization of event-driven software system.
· Design, driving and delivery of public-facing features and products.
· Architect and build on AWS.
· DevOps, service operation and monitoring best practices.

TECHNICAL SKILLS

Language	Scala, Java, Python, Ruby, Go, 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 Analytics	ElasticSearch, Hadoop, MapReduce, Hive, Spark
Operating System	Ubuntu, Amazon Linux, RHEL, MacOS

EMPLOYMENT

AWS HyperPlane, Amazon Web Services　　　　　　　　　　September 2017 - Present
Software Development Engineer II　　　　　　　　　　　　　　　　　　*Herndon, VA*

AWS HyperPlane is the group of highly-scalable network services reveiled at *re:Invent 2017*.

· Develop a Layer-3 service as an elastic router in the cloud for HyperPlane with three engineers.
· Architect and develop the control plane - API, data store, provisioning, and resource management.

VPN, Amazon Web Services　　　　　　　　　　　　　　　February - October 2017
Software Development Engineer II　　　　　　　　　　　　　　　　　　*Herndon, VA*

AWS VPN service provides highly-available managed connectivity between on-premise network and VPC using industry-standard IPSec technology over Internet.

· Public features. Responsibilities include feature definition, API and console design, planning and estimation, leading engineering effort, project driving, and cross-team communication.
  1. Configurable Amazon-side ASN on Virtual Private Gateway;
  2. VPN Custom PSK, Inside Tunnel IP, and SDK update;
  3. Advanced VPN Encryption Options in GovCloud.
  4. VPN support for VPC expansion.
· Optimize distributed routing engine for better performance, lower latency, and higher efficiency.
· Interview and mentor engineers in the team.

VPN, Amazon Web Services   May 2015 - February 2017

Software Development Engineer I   *Herndon, VA*

Optimized critical compotents for AWS VPN, the 2nd-generation AWS managed VPN service.

· Rearchitected the distributed routing engine. Reduced over 95% load on mission-critical services and improved performance for fast-growing customer base.
· Designed a fully-featured integration test environment. Implemented two fully-featured mock services.
· Reduced provisioning time from 15 to under 5 minutes for new VPN connections.
· Reduced time by 4x for software deployment to EC2 fleet (over 100,000 instances).
· Optimized queries and schema to reduce load on production MySQL database by 57%.
· Conducted load and scale tests and analyzed results.
· Mentored summer interns in the team.

SIDE PROJECT

MerryMen, the Robinhood companion   August 2017 - Present

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

· Python application is hosted on AWS Lambda, credentials is managed by AWS KMS, and daily notifications are generated with SNS.
· Google Sheet is used for data persistence, analysis, and visualization.
· Apex and Terraform are used to manage Lambda functions.

EDUCATION

Carnegie Mellon University   August 2013 - May 2015

M.Sc. in Electrical & Computer Engineering   *Pittsburgh, PA*

Zhejiang University   September 2009 - July 2013

B.Eng. in Information & Communication Engineering   *Hangzhou, China*

Summa cum laude, Chu Kochen Honors College

CERTIFICATION

· AWS Certified Developer - Associate   December 2017
· Juniper Networks Certified Associate - Junos   February 2016