Junjie Guan

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# profile

* Distributed System, Microservices Architecture
* Java, Ruby on Rails, Python, C++

# EDUCATION

Dartmouth College Hanover, NH, US

Computer Science, M.S. 2013 – 2015

Beijing University of Posts and Telecommunication Beijing, China

Communication Engineering, B.S. 2013 – 2015

# Experience

Service Framework Seattle, WA

Software Engineer @ Airbnb Apr. 2019 – present

* Driving the efforts of Microservices Testability for company-wise engineer productivity and software quality, includes building API Mocking Framework and Automated API Integration Test Framework.

Services Infrastructure San Francisco, CA

Software Engineer @ Airbnb Mar. 2016 – Apr. 2019

* Scaled Redis and Memcached using McRouter and Twemproxy for growing traffic.
* Built API service framework and core libraries for Airbnb Microservice Architecture evolution.

AWS Lambda Seattle, WA

Software Engineer @ Amazon Apr. 2015 – Feb. 2019

* Worked on cloud function versioning, a demanding feature to manage version and alias of Lambda function.
* Implemented a test account pool service to avoid tests resource conflicts, which makes test parallelization possible.
* Implemented a map-reduce-base analyzer, which reduces analyzing terabytes of data from several days to a few hours.
* Built more fine grain metrics for the service.

DCloud: Deadline Guaranteed Cloud Computing Beijing, China

Research Assistant @ NetLab, Tsinghua University Sep. 2012 – Feb. 2013

* Designed a new datacenter resource allocation mechanism, by introducing job deadline when scheduling.
* Wrote a resource allocation simulation program, and built a linear model to compute optimal results using IBM Cplex.
* Validated the efficiency in a 16-machine cluster running Hadoop.

Related Publications:

* Li, Dan, Congjie Chen, **Junjie Guan**, Ying Zhang, Jing Zhu, and Ruozhou Yu. "DCloud: deadline-aware resource allocation for cloud computing jobs." IEEE Transactions on Parallel and Distributed Systems 27, no. 8 (2016): 2248-2260.
* Li, D., Chen, C., **Guan, J.**, Zhang, Y., Zhu, J., & Yu, R. DCloud: Deadline-aware Resource Allocation for Cloud Computing Jobs. Accepted, IEEE Transactions on Parallel and Distributed Systems 2015
* Dan Li, Jing Zhu, Jianping Wu, **Junjie Guan**, Guaranteeing Heterogeneous Bandwidth Demand in Multi-tenant Data Center Networks. Accepted by IEEE/ACM Transactions on Networking 2014