

Peiyuan Qi

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EDUCATION

University of Southern California (USC), Los Angeles, CA

GPA 3.6/4.0

Master of Science in Computer Science

Aug 2018 – Jan 2020

Shanghai Jiao Tong University (SJTU), Shanghai, China

Bachelor of Science in Electrical and Computer Engineering Graduate with Honors

Sept 2014 – Aug 2018

University of Michigan – Shanghai Jiao Tong University Joint Institute (UM-SJTU JI)

GPA 3.6/4.0

SKILLS

Java, gRPC, Kafka, Flink, Storm, Spark, Zookeeper, AWS, Kubernetes, Docker, Terraform, Nginx, Spring, Hadoop, Prometheus, KairosDB, CouchBase, MongoDB, MySQL, Fluent, Grafana, Kibana, Python, C++.

PROFESSIONAL & RESEARCH EXPERIENCE

Electronic Arts Inc. (EA)

Redwood City, CA

Software Engineer II

Feb 2020 - Present

- Designed and implemented gRPC microservice in AWS Elastic Kubernetes Service (EKS) to accept data for all EA games.
- Migrated EA data gateway service from classic cloud instances into AWS EKS with autoscaling to save 50% current budget.
- Built the metrics reporting and anomaly detecting system for real-time data pipeline system with KairosDB and CloudWatch.
- Conducted load test of more than 5k/s per vCPU to critical data gateway to examine the robustness of new service.
- Administrated multi-tenants in EA real-time data service (Apache Storm) to achieve self-serve and smart budgeting.
- Implemented Flink data pipeline component to replace Storm topology to improve performance and budget efficiency.
- Implemented Flink real-time data pipeline prototype to replace batch processing pipeline saving 90% time.
- Operated cloud data clusters of size more than 500 instance with different environments for daily operations.
- Improved stability of legacy Apache Storm topologies and internal frameworks with bug fixing and code changes.

Software Engineering Internship

May 2019 – Aug 2019

- Researched and fixed the bugs caused by asynchronous threads to reduce the data corruption rate in the production cluster.
- Implemented container graceful shutdown mechanism in Spring Framework to avoid data loss in cluster auto-scaling process.
- Designed EKS monitor job for the cluster to report current cluster pods number for downstream data pipeline in Python.

Intel Asia-Pacific Research and Development Ltd.

Shanghai, China

Software Engineering Internship

May 2018 – Aug 2018

- Improved admin access API design to meet RESTful requirements for Hadoop Authentication Service for Apache Kerby.
- Submitted changes in two HAS command-line tools following Adapter Pattern and the open-source community accepted.
- Implemented Hadoop Smart Storage Manage integration automated quality verification scripts using Python.

NVIDIA Semiconductor Technology Co., Ltd.

Shanghai, China

Software Engineering Internship

Aug 2017 – Apr 2018

- Designed a Perl Object Oriented Module to post more than 140,000 GPU simulation data per day to Elastic Search.
- Devised and delivered a Python package for Elastic Search data retrieve and data manipulation with RESTful principles.
- Applied doc2vec and WMD algorithms to perform the software Bug Triage tasks to improve team debugging efficiency.

Intelligent Decision Making (IDM) Lab

Los Angeles, CA

Graduate Research Assistant

Jun 2019 – May 2019

- Implemented conflict-based search solution Python package for hierarchical Multi-Agents Paths Finding system.

ACTIVITIES

HackTech 2019

Pasadena, CA

2019 Best Hack that Acts on the Physical World - Sponsored by Uber (Team Member)

Mar 2019

- Developed an emergency Uber requesting application for Fitbit smart band when user has severe health problem with Uber API.

SELECTED PROJECTS

Happy Contra, an iOS Mobile Game

Jan 2019 – May 2019

- Designed and developed a mobile run-and-gun 2D platformer game with puzzle solving mechanism using Unity game engine.

JOS Kernel Development in C

Aug 2018 – Nov 2018

- Implemented the memory initializing, exception and interrupt trapping on x86 machine an Exokernel named JOS individually.
- Constructed the fork, process preemption, inter-process communication, network communication mechanism on JOS.

Distributed Transaction Settlement System

Jun 2018 – Jul 2018

- Achieved a Distributed Transaction Settlement System based on Hadoop and Spark Streaming in a group of three.
- Created a currency server maintained with Zookeeper updated by three concurrent threads.
- Implemented the backend storage in MongoDB and dealt incoming concurrent transactions with Kafka.

International Programs Application and Management System, A Full-Stack Website Project

Apr 2018 – Aug 2018

- Developed the online system for UM-SJTU JI based on Laravel with around 1000 users with Object-Oriented Design Principles.
- Designed the database patterns including many-to-many, one-to-many associations to support application needs.