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 — Sept 2014 – Aug 2018
University of Michigan – Shanghai Jiao Tong University Joint Institute (UM-SJTU JI) — GPA 3.6/4.0

SKILLS & AWARDS

Java, Python, C++, gRPC, AWS, Docker, Kubernetes, Flink, Kafka, Spark, Zookeeper, Storm, Terraform, Nginx, Spring, Prometheus, MongoDB, MySQL.

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 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 Prometheus and Nagios;
- Improved stability of legacy Apache Storm topologies and internal framework;
- Implemented Flink real-time data pipeline prototype to replace batch processing pipeline saving 90% time.

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.

Intelligent Internet of Things Research Center — Shanghai, China
Undergraduate Research Assistant — Jun 2017 – Apr 2018
- Doubled the concurrent database query speed for Acemap, an academic database by changing CodeIgniter Database Driver.

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.