Peiyuan Qi

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EDUCATION

University of Southern California, Los Angeles, CA   GPA 3.75/4.0
Master of Science in Computer Science   *Aug 2018 – May 2020*
Shanghai Jiao Tong University, 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 3.61/4.0
Selected Courses: Algorithms, Artificial Intelligence, Database, Distributed Systems, OS, Programming Language Concepts.

SKILLS & AWARDS

Java, Python, C++, Scheme, AWS, Docker, Kubernetes, Hadoop, Kafka, Spark, Zookeeper, MongoDB, MySQL.
2017 Interdisciplinary Contest in Modeling Honorable Mention | 2015 Mathematical Contest in Modeling Honorable Mention.

PROFESSIONAL & RESEARCH EXPERIENCE

Electronic Arts Inc.   Redwood City, CA
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;
- Migrated critical data pipeline into AWS EKS with a setting of Horizontal Pod Autoscaler, to save 50% current budget.

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 – Present*
- 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;
- Developed an Interdisciplinary Mentor-Student Recommendation System as a team with K-Mean clustering algorithm in Python;

CAMPUS 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;
- Performed the demonstration of working system on hack day and presented the impact of technology on people's daily life.

Southern California Solar Car Team   Los Angeles, CA
Strategy Team Monitor System Developer   *Sep 2018 – Present*
- Set up data streaming system with Raspberry Pi - XBee suite to monitor solar car mechanical and electronical system status;
- Implemented car status monitor dashboard to provide real time performance analysis support for a 6-hour non-stop race.

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.