

Xiqiao Shan

Software Engineer - *Full-time (2017 May)*

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA

Master of Entertainment Technology

Sep. 2015 – May.2017

Wuhan University, Wuhan, China

Bachelor of Engineering in Computer Science

Sep. 2011 – Jun. 2015

SKILLS

Programming C++, Java, C#, Python, C, Bash, CUDA, OpenMP

Software & Platform Linux, AWS, Azure, Hadoop, MapReduce, Docker, Perforce, Git, MySQL, HBase

WORKING EXPERIENCE

Autodesk, *Software Engineer Intern*

May. 2016 – Aug.2016

- Contributed to software structure of Autodesk, the 3D-modeling platform, Fusion 360
- Designed and implemented C++ interfaces to parse and handle user commands
- Implemented an event system using observer pattern and C++ polymorphism and inheritance
- Integrated model interaction functionalities to HTC-Vive using C++ SDK

NetEase Games, *Technical Development Intern*

Jul. 2014 – Sep. 2014

- Implemented artificial intelligence for Non-Player-Controlled characters of a shipped title “Demon Seals” using Behavior Tree algorithm
- Assisted Senior Software Engineers to optimize internal designing tools with black box testing

ACADEMIC PROJECTS

Viacom, VR Exploration (CMU, PA) - *Software Engineer*

Jan. 2016 – May.2016

- Collaborated in a team of 6, explored and developed novel mechanics in VR, using C++ & C#
- Built and polished two experiences and showcased them in Viacom’s headquarter
- Developed a tool to generate massive amount of static objects, reduced memory occupation by 30% and improved the frame rate for 50%

Big Data Analysis with MapReduce (CMU, PA) - *Software Engineer*

Sep. 2016

- Course project of Cloud Computing (15-619)
- Completed sequential data analysis utilizing AWS EC2 service on a 500M text dataset
- Conducted parallel analysis on a 300G text dataset with AWS EMR Hadoop Streaming.
- Refactored Java code structure for sequential analysis, improved the runtime from 50s to 10s.
- Implemented mapper and reducer with python and executed MapReduce task with AWS services.

Autoscaling & Container Cloud Service (CMU, PA) - *Software Engineer*

Sep. 2016 – Oct.2016

- Implemented a load balancer with Java for Microsoft Azure to handle 3000 RPS.
- Implemented a load balancer with Python for AWS to handle 4000 RPS and implemented autoscaling strategies for AWS ELB and EC2 services to handle horizontal scaling automatically.
- Deployed containerized web application for interpreting and running programs in different script languages and managed automatic deployment of containers using Docker and AWS ECS.

CUDA Renderer (CMU, PA) - *Software Engineer*

Sep. 2016

- Collaborated in a team of 2 for project of Parallel Computer Architecture and Programming (15-618)
- Implemented a CUDA renderer for geometry shapes using Three-Dimensional Segment Tree and Grid-Partitioning Algorithm
- Achieved an overall 10x speedup in rendering random-pattern pictures by optimizing parallel sorting algorithm and CUDA threads workload distribution

RELEVANT COURSES

Advanced Data Structure & Algorithm (15-650) | Parallel Computer Architecture (15-618)

Cloud Computing (15-619) | Software Engineering | Computer Network | Principles of Database