Joseph Marvin McGee
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Software Engineer

Experience in full stack development, network programming, distributed systems, cryptocurrency networks, and applied cryptography. Takes ownership of a broader vision or concept, crafts specific project goals and sees them through to a functional product.

EXPERIENCE

Co-Founder, Archer **2015 – 2019**
Archer provides facial detection-based software to track user engagement with in-store adverts.

- Architected and developed Django server to handle live data streams from in-store kiosks as well as to visualize recent data for customer demos and quick debugging.
- Architected and developed scripts to automatically compile, test and deploy software as well as to automatically provision servers and in-store kiosks as well as handle key management.
- Managed tasks and integration for a small team of developers.

Software Engineer, Ripple **Summer 2017**
Ripple provides one frictionless experience to send money globally using the power of blockchain.

- Designed and built out a framework to simulate consensus and validation on XRP Ledger.
- Designed metrics to report QoS and to have visibility into network fragility
- Considered benefits and constraints of potential modifications to the consensus protocol.
- Became proficient in modern C++ (11/14) generics and meta-template programming

Software Engineer, Intel **Summer 2015**

- Modified OpenMPI to route network I/O through DPDK framework.
- Debugged OpenMPI and DPDK-based TCP/IP user-space network stacks to diagnose errors.
- Implemented deficiencies in DPDK-based TCP/IP network stacks to make them compatible with OpenMPI.
- Diagnosed and resolved linkage errors resulting from the interaction of several layers of shared/static libraries.

Teacher's Assistant, University of California, Davis **2015 – 2016**
FQ2016 ECS 132: Prob & Sta in CS
SQ2016 ECS 030: Introduction to Programming (in C)
SQ2015 ECS 122A: Algorithm Analysis and Design

PROJECTS

High Speed Networking/Performance Research **2015 – 2017**
University of California, Davis

- Integrate DPDK into OpenMPI communication subsystem to characterize potential performance benefits
- Analyze bottlenecks in utilizing 10/40/100Gb network speeds on commodity hardware/software
- Explore extensible and flexible solution to scale to increasing core-counts and network speeds.

Fort Nitta: An Atari Rampart Remake **Winter 2015**
ECS 160: Software Engineering

- Designed specification for multi-player network protocol–running over TCP/IP.
- Designed and wrote a multi-threaded server to facilitate multi-player communications.
- Managed multiple team members to efficiently work towards project goals.

VirtualMachine **Winter 2015**
ECS 150: Operating Systems

- Implemented a preemptive multitasking scheduler.
- Implemented blocking file access through use of asynchronous I/O on shared memory.
- Partially implemented access to a FAT file system image.

EDUCATION

M.S in Computer Science, Incomplete [3.616/4.000] **2016 – 2019**
B.S in Computer Science and Engineering, June 2016 (Major) [3.484/4.000] **2012 – 2016**
University of California, Davis

SKILLS

Languages: C++ , C , Java , Python , Javascript
Systems: bash, ssh, vim, ctags, systemd, docker
Build/Test: Git, Make, CMake, Maven, GDB, Vagrant
Misc: VirtualBox, Wireshark, LaTeX, OpenCV