Joseph Marvin McGee
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Software Engineer

Experience in full stack development, high speed networking, distributed systems, cryptocurrency networks, applied cryptography, and software defined radios.

EXPERIENCE

Software Engineer II, Sierra Nevada Corporation **2019 – 2020**

- Engineered cloud-based processing architecture of SDRs, utilizing emerging government standards to create a SIGINT/COMINT system easily tailored to particular applications.
- Engineered common development environment for team along with scripts to standardize development and testing tasks, and to consolidate operational knowledge.
- Developed workflow to integrate and deploy software into a Kubernetes architecture, taking ownership of design, and ongoing maintenance of the process.

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 and to visualize data for customer demos and debugging.
- Architected and developed scripts to automatically compile, test and deploy software, to automatically provision servers and in-store kiosks, and to handle key management.
- Managed development and integration tasks for a small remote team to deliver goals.

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
- Researched 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: Probability & Statistics in Computer Science
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

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

EDUCATION

M.S in Computer Science, Incomplete [3.6/4.0] **2016 – 2019**

B.S in Computer Science and Engineering, June 2016 (Major) [3.5/4.0] **2012 – 2016**

University of California, Davis

SKILLS

Languages: C++, C, Java, Python, JavaScript
Systems: bash, ssh, vim, ctags, systemd, docker, K8s
Build/Test: Git, Make, CMake, Maven, GDB, Vagrant
Misc: VirtualBox, Wireshark, LaTeX, OpenCV