

# Joseph Marvin McGee

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## Software Engineer

### 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

#### B.S in Computer Science and Engineering, 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

**Misc:** VirtualBox, Wireshark, LaTeX, OpenCV