

SAMUEL RUSSELL

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WORK

Uber, Senior Software Engineer

2014 - Present

Observability SRE: Monitoring and Alerting Infrastructure

- In-House Metrics-Based Alerting System
- Auto-Generated monitoring Dashboards

Autonomous Vehicle Infrastructure

- Cluster Job Scheduler and ES Optimizations
- ML Model Storage System
- Perception Embed for off-board optimization and reliability

China DC Bring-Up

- Security, Fraud, and Cross-DC replication/synchronization
- Embed on Launch Team

Users Service Platform

- Monolith to SOA migration
- DB migration and service extraction for User-Service
- Performance Optimization: Postgres DB performance, caching, load shedding, Capacity planning.
- Capacity planning. Designing and executing load tests. Identifying system bottlenecks.
- China Data-Center bring-up. Initial bootstrapping and debugging of new DC bringup. Creating and supporting Cross-DC RPC and replication systems. Security and Fraud concerns.
- Oncall and Outage mitigation. Triage and root-cause analysis

Nvidia, Systems Software Engineer

2012 - 2014

Graphics Performance-Power

- Novel algorithm design, implementation, and testing for cohesive multi-component SOC power scaling, thermal management, and user experience optimization
- Test plan design, device automation, and front end data representation
- Chip and Platform software bring-up and validation, power measurement configuration
- Rapid debugging of kernel and driver faults and regressions, app trace analysis
- Special project 'swat' teams for critical demos, design-wins, and customer release issues

GE Healthcare, EEDP Intern

2010 - 2011

PET-MRI Acquisition / CT Reconstruction

- Programmed calibration file API for prototype scanner implementing HDF5 data format
- Optimized OpenGL algorithm code and system parameters to maximize performance

EDUCATION

Carnegie Mellon University Pittsburgh, PA

MS in Electrical and Computer Engineering

2012

BS in Electrical and Computer Engineering

2011

Minors in Neural Computation, Biomedical Engineering

SKILLS

Languages: Go, Python, C, C++, Java, OpenGL/CL

PROJECTS

Hobby Android App Design

- Created and supported utility "Lock Screen Notifications" app w/ 550K downloads
- Designed and developed a 3D Racing game

CUDA Captcha Breaker

- Developed a CUDA based algorithm to break captchas by using massive parallelism to "brute-force" evaluate all characters in all possible locations and distortions
- Achieved 10% accuracy on state-of-the-art reCaptcha images, 5 second runtime

"Seeing Sound" Capstone Project

- Designed and built embedded application to control RGB lighting in real time responding to tempo and pitch of any music or sound
- Created several low-memory real-time signal processing modules

HONORS

Uber 2017 Hackathon Winner

Eta Kappa Nu Honor Society

Dean's List, Carnegie Institute of Technology

Boy Scouts of America Eagle Scout, Senior Patrol Leader