Samuel **Lucas**

One full stack software engineer & firmware developer with a side of DevOps, over easy

⌂ Irvine, CA   ☎ (571) 274-8261   ✉ sam.n.lucas@gmail.com   🔗 sam-lucas.github.io

Skills

Languages	C/C++, Python, Java, Kotlin, HTML, CSS, Typescript, JavaScript, HCL, Protobuf, Bash, MATLAB
Technologies	REST APIs, gRPC, SoM/SoC/FPGA, React, Qt, WebAssembly, Video Streaming, SQL, NoSQL, Git, CI/CD
Infrastructure	Linux, Windows, AWS (incl. GovCloud), Docker, Kubernetes, Terraform, Helm, Serverless, Android
Certifications	Lean Six Sigma Black Belt (2019), AWS Certified Cloud Practitioner (2021)

Work Experience

Senior Software Engineer
Loko AI (Sep 2020 – Present)
- Head of design, implementation, and deployment efforts for almost all of our cloud software and device firmware
- Projects include a machine learning platform for real-time, rules-based anomaly detection on live video streams; a highly secure and ultra-low latency streaming engine; and an autonomous temperature detector for COVID-19 prevention
- Writing low-level algorithms for facial recognition, image processing, sensor fusion, and efficient data transcoding
- Development of highly secure, FIPS and NIST compliant software solutions for the military and other high-risk environments
- Automating deployment of applications on cloud and local stacks with scalable, microservice architecture
- Responsible for every stage of the development life cycle and leading the implementation of our CI/CD pipeline
- Programming our own OAS-compliant REST API as well as integrating with other third-party APIs

Software & Control Systems Engineer
Bridge 12 Technologies (Aug 2017 – June 2020)
- Chiefly responsible for the control systems of assorted radiation technologies in the microwave/terahertz products division
- Designing from the ground up: writing firmware, embedded software, creating APIs, GUIs using Qt, client/server apps
- Writing algorithms and developing original software revolving around nuclear physics and wave motion
- Independently responsible for every stage of the software development life cycle on every project I was assigned
- Projects include particle accelerators, gyrotrons, vacuum bakeout systems, and lab instrumentation
- Frequently utilized various microcontrollers, SoMs, FPGAs, and SBCs as well as various Linux distributions

Research and Development Intern
Bridge 12 Technologies (May 2017 – Aug 2017)
- Designed controls for lab instrumentation, including microcontroller firmware, client and server applications, touch UIs
- Aided in hardware design and part selection, as well as debugging hardware issues during development

Teaching Assistant
Penn State University (Jan 2016 – May 2016)
- Instructed sophomore-level physics curriculum and led weekly labs on electricity and magnetism
- Graded assignments, proctored exams, and assisted students in their learning through office hours

Education

Tufts University
Medford, MA (2018 – 2020)

M.S. Mechanical Engineering with a focus in Design and Digital Control

The Pennsylvania State University
University Park, PA (2013 – 2017)

B.S. Physics with a focus in Computational Physics