

# Sam Laird *Infrastructure & Technical Specialist*

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## WORK EXPERIENCE

### **Genuone, Founder**

01/2024 – present | Boston, MA

Responsible for designing and building core software for Genuone, as well as selecting and designing tools for inter-company collaboration, progress tracking, documentation and resource management.

- **Patented** anonymous ID verification system.
- Created integration for cross-site verification without the use of third-party cookies or redirects/pop-ups.
- Built geo-spatial userdata system in compliance with global data privacy laws.
- Integrated automatic tiered billing system, with support for any currencies. Including manual invoicing for traditional customers.

### **Nextera Robotics, Infrastructure & Hardware Specialist**

07/2022 – 10/2023 | Boston, MA

At Nextera, I primarily worked on the network and video pipeline, to for realtime video streaming over unstable networks. I also managed all on-board communications, internal IO, and power delivery for our robots, as well as selection and validation of all wireless radios and antennas.

- **400%** uptime increase, including automated fault recovery system.
- Developed backend for Robot fleet control portal, and logistics.
- Automated deployment for all robots and network infrastructure.
- Optimized TCP flow control, multi-gateway routing, and Wireguard tunneling to allow for realtime video over erratic and harsh conditions.
- Designed and oversaw development of the following electronics for Robot.
  - PDU and Charging Controller
  - Managed USB-3 IO & Networking Board

### **Boundless Robotics, Embedded Systems & Validation Consultant**

2023 | Boston, MA

At Boundless I assisted with compiling kernel level wireless drivers for embedded hardware, and FCC certification of said hardware. I also developed a manufacturer hardware test system to validate hardware during production, supporting full product validation with per-component validation.

### **Worcester Polytechnic Institute, Teaching Assistant**

03/2022 – 05/2022 | Worcester, MA

Teaching assistant at WPI supporting student teams in completing their software design project for an upper-level software engineering class.

- Mentored 2 student teams design graphical interfaces and pathfinding systems for hospital navigation..
- Fostered a problem solving mindset in students to overcome challenges in full stack development and troubleshooting.
- Ensured students and teams met the professor's goals and learned the AGILE software development methodology.

### **New England Chapel** ✉

*System Administrator*

05/2021 – present | Franklin, MA

- Planned and oversaw network migration from Cisco Meraki to Ubiquiti
- Selected and deployed Security camera system
- Deployed LDAP user accounting system
- Migrated WiFi to cloudbacked RADIUS authentication from password based
- Designed and built new website using Squarespace to allow staff to easily modify and maintain.

## INTERESTS

Homelab | Skiing | High-Fidelity Audio | Cinematography | Reptile Care

## EDUCATION

### **Worcester Polytechnic Institute,**

*Computer Science*

2020 – 2022

## SKILLS

### **Programming Languages**

Python, C, C++, JavaScript, Typescript, Java, MatLab, Verilog/VHDL

### **Scripting Languages**

bash, zsh, ash, fish

### **Database Systems**

PostgreSQL, MySQL, SQLite, Apache Derby

### **Version Control Systems**

Git, Github, Gitlab

### **Embedded Systems Programming**

Experience with Arm, MSP430, Arm-V8, ESP32, ESP-01, ESP8266

### **Linux and Unix-like Enviroments**

Ubuntu/Debian, Arch, HardenedFreeBSD, Proxmox

### **Network Administration**

Managing routing, switching, APs, and VM workstations

### **Computer Vision**

SLAM, Yolo, OpenCV

### **x86-64 Assembly (AT&T)**

### **Miscellaneous (Fields)**

Mesh Network Design, Hybrid Cloud, Virtualization, Containerization, AV Production

### **Miscellaneous (Tools)**

ROS, OBS, ProPresenter, Nginx, Google Workspace, Microsoft Office, Altium

## PROJECTS

### **Personal Website** ✉

This site was written by hand, from scratch. Uses server-side rendering for faster speeds as well as a custom blog renderer. It's hosted and deployed by me on my handbuilt NAS.