Todd Rylaarsdam

Full-Stack and Embedded Systems Engineer

St. Paul, MN 55014

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SKILLS

Software Embedded C/C++ (STM32, Atmel, Nordic), Low Energy Bluetooth, JavaScript/NodeJS, Swift, Python, Databases (SQL, Firebase, InfluxDB), CI/CD, Google Cloud Platform, Tensorflow

Hardware PCB Design (KiCad), 3D Modeling & Rendering (Solidworks, Onshape), PCB Assembly Coordination, Hardware Debugging (SWD, Digital Logic Analyzers, Oscilloscopes)

PROFESSIONAL EXPERIENCE

MAYO CLINIC **Rochester, MN**

Undergraduate Intern - Neurology *May 2023–August 2023*

Designed, created, and deployed to patient use a system to allow EEG implants to interface with an at-edge Tiny-ML capable microcontroller, enabling 24/7 real-time seizure detection and forecasting for patients with epilepsy, whether they were in the hospital, at home, or off-grid and disconnected from the internet.

Skills: C++, JavaScript, TensorFlow, Python, C#, 3D Modeling, Google Cloud, Grafana, InfluxDB, PCB Design

WINDY CITY LAB **Chicago, IL (Remote)**

Software Engineering Contractor, Part-Time *July 2022–May 2023*

Provided continuing support, developed new features, and shipped bug fixes for clients while enrolled in college full-time. Participated in project design and architecture planning for upcoming projects and contracts.

Skills: C++, Google Cloud, Grafana, InfluxDB, Node.JS, Swift

WINDY CITY LAB **Chicago, IL**

Full Stack Embedded Systems Intern *May 2021–July 2022*

Worked on projects for clients ranging from early stage IoT prototypes to production-ready sensors for scientific research. Responsibilities included communicating with clients like Argonne National Lab, Mayo Clinic and Northwestern University to refine project goals and provide status updates, significant individual and pair-programming contributions to codebases, and design prototyping, and requisition of PCBs and device housings.

Developed a cloud-synchronized, distributed CPU emulator. Enabled summer students during the 2020 lockdowns to collaborate remotely, each building their own 8-bit CPU components. Once connected, these individual components formed a complete, distributed, and fully-functional CPU through cloud coordination.

Skills: C/C++, Node.JS, Python, PCB Design, 3D Modeling, Google Cloud, Swift, Kotlin

EDUCATION

GEORGE FOX UNIVERSITY **Newberg, OR**

Bachelor of Science in Computer Science, Sophomore *August 2022-Present*

GPA: 3.96, In-Major GPA: 4.00

AWARDS

- Meritorious Achievement Award in Sound Design, Kennedy Center American College Theater Festival, Region 7 – March 2024
- Oregon Site Champion (D2), International Collegiate Programming Contest – February 2024
- Ethel Ankeny Award for Technical Theater George Fox University – April 2023