

Dalton Overmyer

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🔗 REDl3east

Experience

Raptor Power Systems, Software Engineer

Champaign, Illinois
June 2020 – Oct 2024

- Developed smart C++ applications for custom Power Distribution Units (PDUs) and remote power panels, enabling hardware control and real-time recording of user-relevant metrics.
- Wrote C/C++ drivers for hardware components like relays, power meters, and LCDs, utilizing communication protocols such as MODBUS, SPI, and I2C.
- Created a user-friendly Human-Machine Interface (HMI) for remote power panels using JavaScript, enabling intuitive control and real-time monitoring of system metrics.
- Migrated an outdated CGI API to a modern RESTful API in C++, improving response time by over 50%.
- Integrated OpenWrt build system into a non-build system application, streamlining the build process for embedded devices.

Education

BS Southern Illinois University, Computer Science


Sept 2017 – May 2020

- **GPA:** 3.53/4.0
- **Institution Honors:** Cum Laude
- **Relevant Coursework:** Discrete Mathematics, Comm Skills & Ethics for CS, Programming w/Data Structures, Internet & Mobile Computing Computational Statistics I, Linux/UNIX Programming, Computer Organiztn & Architect, Operating Systems, Intro to Linear Algebra, Theory Programming Languages, Intro Des & Analysis of Alg, Computer Security, Adv Linux/UNIX Programming, Distributed Systems, Database Systems, Software Engineering, Computer Networks.

Projects

Nutritional Facts Barcode Scanner

- Developed an application using Onion Omega2 and a USB barcode decoder to scan barcodes and access nutritional facts in real-time. Utilized libuv for asynchronous I/O, Crow for HTTP server, and connected to the FoodData Central API.
- Tools Used: C++ and JavaScript

github.com/REDl3east/scannerd 

Cappy

- Developed a cross-platform screen-capping tool that enables users to explore and inspect pixels on their monitors, featuring smooth panning, pixel data inspection, and cropping capabilities.
- Tools Used: C++, SDL2, X11

github.com/REDl3east/cappy 

Technologies

Programming Languages: C, C++, Python, JavaScript

Development Tools: Git, GitHub, Visual Studio Code, CMake, clang-format

Embedded Systems: BusyBox, OpenWrt, Yocto, Buildroot

Frameworks and Libraries: Vue, libuv, libubox, rrdtool, Crow