ETHAN BRAUN

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Education:
SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
Bachelor of Science, Computer Engineering with a Minor in Computer Science | GPA: 3.9/4.0
Expected Graduation Date: December 2024

JOHN A. LOGAN COLLEGE
Associate in Applied Science Toward a Degree in Electrical Engineering Technology | GPA: 3.9/4.0
Graduation Date: August 2021

Coursework:
- Software Engineering
- Robotics
- Microcontrollers and Embedded Driver Development
- Systems Programming
- Computer Organization and Architecture
- Linux/Unix Programming
- Computer Networking
- Data Structures and Algorithms
- Front-end web development

Technical Skills:
- Experience in: C, C++, Python, Rust, Bash, JavaScript, HTML, CSS, ReactJS
- SPI, I2C, PWM, UART
- Embedded Linux and Embedded C
- GCC & GDB
- Microcontrollers
- Arduino, STM32, Raspberry Pi
- Visual Studio/VS Code
- Git
- Electronic circuits and schematics
- PCB Routing
- Usage of oscilloscopes, signal generators, power supplies, voltmeters, logic analyzers, etc.
- Microsoft Office (Excel, PowerPoint, Word)

Projects:
- Wrote a program which uses SPI to interface with the nRF24L01 radio module. Programmed two separate ARM-based STM32 microcontrollers to operate in Transmit and Receive mode. The transmitter took analog voltage from a joystick as input, and then sent the state of the joystick to the receiver, which then controlled a servo motor. Used UART for a serial console and a logic analyzer for viewing SPI communications.
- Built a device using an Arduino which scanned an action figure containing an NFC chip, output a sound clip to a speaker and displayed text to an LCD.
- Built a makeshift radar device in Python using a raspberry pi, a servo motor, an LCD, and an ultrasonic sensor.
- Successfully configured and loaded a Linux image onto a Beaglebone Black board using the Yocto Project.

Experience:

JUNE 2021 – MAY 2023
ENGINEERING INTERN
EMAC, INC.
- Tested peripherals on breakout boards using protocols like I2C and a logic analyzer.
- Added functionality to a command-line program in order to communicate with a peripheral device through PWM using the Linux filesystem.
- Reviewed and revised schematic and PCB work done by other engineers.
- Routed PCB's and placed components.

MAY 2023 – PRESENT
COMPUTER SCIENCE CO-OP
HUNTER ENGINEERING
- Regularly resolve bug fixes and implement new software features in an extensive C++ code base
- Use Visual Studio, GDB, and Putty to perform debugging on a remote Linux system
- OSG 3D modeling, GTK GUI design, OpenCV image processing
- Multithreaded applications & resource management
- Interface and communicate with QA and other software engineers

Volunteer Work:
- Worked at Touch of Nature Reserve in Carbondale, IL to gather sticks and dead branches.
- Volunteered at the Carbondale Warming Center to help sort clothes for homeless visitors to the shelter