Cole Kniffen

Location: Atlanta, GA
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EDUCATION

Purdue University West Lafayette, IN
Bachelor of Science in Electrical Engineering (GPA**:** 3.93/4.00) May 2023

PROFESSIONAL EXPERIENCE

Codex Laboratories LLC West Lafayette, IN
Research and Development Engineer December 2020 – August 2021

- Defined and implemented computer vision software, flight firmware, and hardware for an autonomous, GPS-denied drone system; placed 4th out of 1,000s of companies in a DoD contract competition.
- Developed a PCB and mobile app which included various sensors to provide an off-road vehicle company with vehicle data, reducing maintenance downtime by 10%.
- Spearheaded a cloud-based application, providing a robust and high-fidelity drone simulator to simplify autonomous drone development.
- Collaborated in a small, fast-paced startup environment to synthesize a business plan, new technologies, and product applications.

Consumers Energy Jackson, MI
Electrical Engineering Intern May 2020 – August 2020

- Deployed a Python program to archive weather forecasts of 1,093 substations daily, improving outage prediction and decreasing annual costs by ~$100,000.
- Performed root cause analysis on transformer failures to implement preventative maintenance measures.
- Conducted analysis of a database with 1,000,000+ entries to correct 10,000+ errors which improved grid infrastructure design and corrected billing errors.

PROJECT EXPERIENCE

Purdue Senior Design – Smart Beverage System West Lafayette, IN
Hardware Development Lead August 2022 – December 2022

- Designed and assembled the hardware for an automatic beverage dispenser including a two-layer PCB with a two-stage power supply, an MCU, 3 sensors, a solenoid driver, a custom keypad, and an LCD display.
- Executed hardware tests utilizing oscilloscopes, DMMs, and logic analyzers, leveraging analog and digital design principles.
- Wrote firmware to ensure the device dispensed accurate volumes of fluid within a 5% tolerance.
- Supervised a team of 3 other engineers, providing guidance and direction throughout the development cycle.

Purdue IEEE – Remote Operated Vehicle (ROV) West Lafayette, IN
Electrical Team Member August 2021 – August 2022

- Responsible for improving the ROV's power delivery and motor response to increase reliability and performance.
- Developed and manufactured 3 PCBs to consolidate power and logic components into a single enclosure.
- Facilitated the integration of the mechanical and software sub-systems, finishing 10th overall in an international ROV competition.

RELEVENT SKILLS

Programming Languages: C, C++, Python, MATLAB (Simulink), JavaScript
Technical: Mixed-Signal PCB Design, Hardware Testing, CAD (3D and 2D), I2C, SPI, UART, CAN