Cole Kniffen

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EDUCATION

Purdue University   West Lafayette, IN
Bachelor of Science in Electrical Engineering   August 2019 – May 2023
GPA: 3.93/4.00; Dean's List 2019 – 2023
Relevant Courses: Electrical Eng. Fundamentals Labs I & II, Circuits & Systems Lab, Digital System Design, Transmission of Information, Signals and Systems, Digital Control Systems, Digital Signal Processing

PROFESSIONAL EXPERIENCE

Codex Laboratories LLC   West Lafayette, IN
Research and Development Engineer   December 2020 – August 2021
- Built computer vision and controls algorithms in C++ to enable a drone's swift exploration and mapping of GPS-denied environments; placed 4th out of 1,000s of companies in a DOD contract competition.
- Created a cloud-based web-app using ReactJS, Ruby, Docker, and AWS to provide stakeholders with a robust, low-cost, and high-fidelity drone simulator, simplifying autonomous robotics development.
- Developed a mobile app using Flutter and designed a circuit (PCB) with numerous sensors to provide an off-road vehicle company with driver training data and to reduce vehicle maintenance downtime by 10%.
- Collaborated with the CEO and CFO to formulate a comprehensive business plan, securing funding from a group of key stakeholders.

Consumers Energy   Jackson, MI
Electrical Engineering Intern   May 2020 – August 2020
- Identified and corrected 10,000+ errors in a database with 1,000,000+ entries using SQL and statistical analysis to increase data accuracy, inform grid infrastructure design, and correct billing errors.
- Deployed a Python program to archive weather forecasts of 1,093 substations daily, improving outage prediction and decreasing annual costs by ~$100,000.
- Analyzed secondary transformer failures using SQL and Python to identify failure causes and create a predictive model to reduce the frequency of outages caused by device failures.

Rocket Mortgage   Detroit, MI
Software Engineering Intern   May 2019 – August 2019
- Programmed 5-10 server health checks for each internal .NET web service that reduced downtime by up to 20%.
- Delivered front-end and back-end features for a mortgage request portal using AngularJS to meet business specifications and to improve existing capabilities.
- Engaged with 5 software engineers in a Scaled Agile Framework to streamline workflow and define software requirements for improved efficiency.

COLLEGIATE INVOLVEMENT

Senior Design — Smart Beverage System, Team Lead   August 2022 – December 2022
IEEE – Remote Operated Vehicle (ROV), R&D Team Member   August 2021 – August 2022
Vertically Integrated Projects – SWARM, Cloud Dev. Lead   August 2020 – August 2021
Purdue Aerial Robotics Team, Head of Autonomy   January 2020 – January 2021
Engineering Projects in Community Service – Auto CPR, Team Lead   August 2019 – May 2020

SKILLS

Programming Languages: C, C++, JavaScript, Python, MATLAB (Simulink)
Technical: Mixed-Signal PCB Design, Embedded Systems, Wireless Systems, Digital Signal Processing