Cole Kniffen

Location: Atlanta, GA   Phone: (248) 514-6441
Website: colekniffen.github.io/portfolio/   Email: ckniff9331@gmail.com

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, Feedback Systems, Digital Control Systems

PROFESSIONAL EXPERIENCE

Codex Laboratories LLC   West Lafayette, IN
Machine Learning 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