

VIKRANTH VAKATI



Computer engineering masters student with software development and electrical engineering experience. Passionate about exploring cutting-edge technologies in cyber-physical systems with a focus on IoT, web development, and power systems. Proven track record of developing systems with seamless data exchange, and dynamic web experiences.

SKILLS

Languages and Tools: JavaScript, React.js, Node.js, Python, OpenCV, HTML5, Tailwind CSS, C++, SQL, MATLAB

Technical Skills: Software Development, Circuit Development, Transmission Protocols

Software: Git, LabView, MultiSim, Figma, Wireshark, SolidWorks

Operating Systems and Devices: Windows, Unix, ESP, Raspberry Pi, Arduino, FPGA Boards

PROJECTS

Automated Billiards Shot Timer | May 2023

- Built an automated billiards timer system using Python that displays the remaining time for each player
- Utilized OpenCV to track the motion of billiards balls on a table while filtering out noise
- Employed Kalman filtering techniques to reduce measurement noise and improve tracking accuracy
- Collaborated with billiards players to ensure that the system meets their needs while remaining compliant with tournament rules
- Optimized the system for accuracy and reliability by conducting extensive testing

Optical Heart Rate Detection | Apr 2023

- Designed a non-invasive heart rate detection algorithm using MATLAB that measures heart rate from facial videos
- Utilized signal processing techniques to extract heart rate signals from video data
- Implemented machine learning algorithms to improve the accuracy and robustness of the algorithm
- Conducted extensive testing to optimize the algorithm for accuracy and reliability

Farm Monitoring Network | Aug 2022

- Led a team of 3 to build an offline mesh network using ESP32 nodes monitoring conditions on farms
- Designed a custom circuit board to integrate pH, moisture, temperature, and macronutrient sensors
- Programmed each node to take sensor input periodically and send the collected data to a server node
- Developed a custom web interface that displays real-time information, providing farmers with valuable insights and decision making tools
- Optimized the system for reliability, and performance, resulting in a system that is dependable in rural areas with limited internet connectivity

EXPERIENCE

Wiring Technician | Delta Magnetics and Controls | Jan 2021 - Jan 2023

- Conducted visual, point to point and operational testing on control panel systems to ensure functionality
- Designed and built test panels for functional testing
- Mentored new employees, which led to improved onboarding and productivity
- Maintained accurate wiring diagrams and schematics according to industry standards

EDUCATION

Master of Science, Computer Engineering | Wentworth Institute of Technology

Bachelor of Science, Computer Engineering | Wentworth Institute of Technology

Relevant Coursework:

Cyber-Physical Systems, Embedded Systems, Industrial Controls, Robotics and Automation, Digital Signal Processing, Analog Circuit Design, Operating Systems, Computer Architecture, Computer Networks