Nathan Wakefield

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A passionate computer science undergraduate with a strong foundation in embedded programming, web design, as well as automation; using Python, C++, and many other languages. I am currently seeking an entry-level position to help me utilize and refine my technical skills.

Education

California State University, Long Beach   Aug. 2019 – Dec. 2024
B.S. Computer Science

Relevant Coursework

Databases • Algorithms • Data Structures • Object-Oriented Design • Python • Software Design Principles • Operating Systems • Intro and Advanced Computer Security • Networks and Network Security

Projects

Lead Developer | SAE Baja Data Collection System | CSULB   April 2024 - Present
- Developed a data acquisition system using ESP32s, ESPNow, and C/C++ to collect real-time vehicle performance data from sensors like GPS and suspension height.
- Integrated direct pin wiring and I2C communication between sensors, with data logged to an SD card for post-processing and visualization in Blender.
- Currently developing LoRa communication to a Raspberry Pi for real-time monitoring and future UI implementation.

Designer & Developer | Digital Quadrascopic Lenticular Camera | Self-Initiated   Dec. 2023
- Developed software in Python to control the camera, handle photo processing, and manage I/O operations.
- Integrated a Raspberry Pi and specialized HAT to synchronize and control four cameras simultaneously.
- Designed and 3D printed a custom body using TinkerCAD and Fusion 360.

Developer | Customer Review Request Automation | DeLillo Chevrolet   Feb 2023
- Automated customer review requests, saving 4 hours weekly by parsing CSVs and automating webpage interaction.
- Utilized NumPy for data preprocessing and CSV manipulation, optimizing workflow and reducing errors.

System Engineer | Photography and Videography Library Backup | Self-Initiated   June. 2022
- Developed a system for renaming and transferring over 2TB of multimedia files between local machines.
- Created a duplicate detection algorithm using average per-pixel RGB values to prevent redundant storage.

Work Experience

3D Printing Technician | Self-Employed | Long Beach, CA   Jan. 2019 - Present
- Facilitated the process of printing and shipping prototypes to professionals around the US.
- Constructed CAD models using TinkerCAD and Fusion 360 and produced them using PLA, ABS, and resin
- Readily maintained a group of 3D printers, tasks including frequent bed leveling and build plate cleaning.
- Configured open-source tooling to automate internet-driven print jobs and optimize workflow.

Marketing Manager | DeLillo Chevrolet | Huntington Beach, CA   Jan. 2021 - May 2024
- Performed data analysis from large datasets of customer data using Excel's visualization stack.
- Assisted with maintenance and upkeep of backend price management software.
- Delivered in-depth business marketing initiatives to drive sales and generate leads.

Leadership and Activities

Data Acquisition Lead | SAE Baja Team | CSULB   April 2024 – Present
- Led a team of 5+ CS, CE, and EE students in developing an embedded system for Baja vehicle data collection.
- Mentored the team in sensor integration, wireless communication, and programming for embedded systems.
- Successfully completed the first iteration of the system and preparing for a presentation to Lions Automobile.

Technical Skills

Software: Microsoft Office Suite, Google Suite, GitHub, Fusion360, Solidworks, X3D
Languages: Python, JavaScript, C/C++
Tools: Arduino IDE, VS Code, Visual Studio, Node.js, Tailwind; **OS:** Windows 10/11, Ubuntu, MacOS Kali Linux, Linux Mint, Linux Server