John Wesley Caldwell

LinkedIn

Skill

Coding Languages: Python, CSS, C++, C#, HTML, JavaScript, SQL

Work Experience

Aug 2021-Jan 2023   **IT Technician (NC)**

- Contacted by clients and diagnosed issues of the software or hardware through clarifying questions and evaluation of the given error(s).
- Troubleshooted connection issues between computing devices and outputting hardware (e.g., scanners, printers, etc.).
- Researched and identified ways for clients to improve their computing systems through hardware and software.

Aug 2020-May 2021   **North Carolina State University & USDA (NC)**

System Engineering:
- Constructed a detection system in Python that would distinguish and locate weeds from crops on a tested field and apply a spray onto the location to destroy the weed.
- Built the round-robin scheduler of the brain of the system to ensure its order of operations in Linux.
- Established the connection between the peripherals of the full system using Python.
- Created the algorithm that would translate the coordinates of the image detection to the machine's movement.

May 2018-Jul 2019   **Norfolk State University: Center of Excellence (VA)**

Year 1 - Software Engineering:
- Constructed the backend database using SQLite and C# for an informative and demonstrative repository application made for cyber forensic analysts.
- Programmed parts of the frontend software written in C# for the windows application using Microsoft Visual Studio.

Year 2 - Cyber Security Research:
- Researched the accuracy of keystroke patterns as a biometric authentication system by comparing testers' timing patterns using machine learning.
- Built experimental Python algorithms to test our hypotheses using TensorFlow and Scikit-Learn libraries.
- Determined that the random forest algorithm was 29% more accurate than the next machine learning algorithm, especially when users type a common phrase instead of a strong password.
- Published the final research paper at the IEEE conference in October 2019.

Projects

Jan 2023-May 2023   **Art/Music Portfolio Website –** Website Link

- Designed an interactive static website using React.js, JavaScript, and HTML to illustrate my hobbies in comical art design and music covers.
- Developed a responsive design in CSS that works both for mobile and computer devices.
- All code of the website is found on my GitHub repository linked at the bottom of the website.

Dec 2017-Jan 2023   **OpenStreetMap Mapper** – [Profile Link](#)

- Populated the map of various towns with accurate data based on given satellite images and generated GIS data.
- Increased mapping activity in the local area by populating huge sections of the area with building and area data.

Education

Aug 2018-Jun 2021   **North Carolina State University (NC)**   **Degree**: B.S Computer Engineering   **GPA**: 3.0/4.0

Embedded Systems, Computer Networking, Game Design, Computer System Programming, Data Structures Algorithms for ECE, Object-Oriented Programming for ECE, Signal Processing, Microarchitecture, Fundamentals of Logic Design, Electric Circuits, Linear Systems

Aug 2015-Jun 2021   **Fayetteville State University (NC)**   **Degree**: B.S Computer Science   **GPA**: 3.9/4.0

Data Structures Algorithms, Object-Oriented Programming, Software Engineering Fundamentals, Programming in C, Logic Programming, Networking, Cyber Security, Program Design & Implementations, Machine Learning