John Wesley Caldwell

LinkedIn

TECHNICAL SKILLS

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

WORK EXPERIENCE

Aug 2021-Jan 2023 **Freelance 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.).

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

Year 1 - Software Engineering:
- Reengineered the backend database using SQL and C# for a repository application made for cyber forensic analysts.
- Migrated data from the outdated database into the new database that would locally connect to the windows and mobile application.
- Designed the frontend software application written in C# using Microsoft Visual Studio to be simple and user friendly.
- Code reviewed, tested, and troubleshooted the frontend mobile application written in C# using Xamarin.

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 against test data collected throughout the procedure.
- 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 **Web Application for Art Portfolio** – Website Link

- Designed an interactive single-page application website using React.js, JavaScript, and HTML to illustrate my hobbies in digital art design, commissions, and music covers.
- Developed a responsive design in CSS that works both for mobile and computer devices.
- Verified metadata specifications following the SEO standards for website searching of Google and Bing.

Aug 2020-May 2021 **Weed-Killer Detection System**

- Constructed a prototype detection system in Python that would distinguish and locate weeds from plant crops on a tested field and apply a spray onto the location to kill the weeds.
- Built the round-robin scheduler of the brain of the system to ensure it follows the order of operations in the Linux microcontroller.
- Established the connections between the microcontroller and peripherals of the system using Python.
- Designed the algorithm that accurately translates the coordinates of the image detection to the machine spray's movement to the target weeds.

EDUCATION

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

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