Emmeline Pearson

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LinkedIn · GitHub

EDUCATION

Drexel University (Philadelphia, PA) - Expected Graduation December 2023

M.S. Computer Science

Elected member of Student Leadership Council on Climate and Sustainability

Case Western Reserve University (Cleveland, OH) - Graduated May 2019

B.S. Computer Engineering, Minor in Computer Science

SKILLS

Coding Languages: Python, Java, C++, SQL, Arduino, JavaScript, MATLAB, and HTML/CSS

Relevant Course Work: Algorithms, Data Structures, Operating Systems, Embedded System Design, Discrete Math, Databases, Architecture, Networks, Security, Software Design, and Intro to Artificial Intelligence (AI)

Development Tools: Linux, Git/GitHub, Jira, Agile Development Process, qTest, Jenkins, and Visual Studio

EXPERIENCE

Embedded Software Engineer at Rockwell Automation (Cleveland, OH) ***July 2019 to July 2022***

- Developed safety and security critical embedded software features in C++ for programmable logic controllers (PLCs) as part of a 6 person agile development team.
- Designed and developed firmware features in real-time, multi-threaded systems, for high availability industrial automation products, which increase controllers' reliability and maintainability.
- Implemented automated functional tests, development tests, and unit tests in parallel with software development to verify firmware functionality and quality. Testware was written in python and C++.
- Debugged and troubleshooted firmware using an on-chip debug interface (Lauterbach Trace32).

Software Engineer Intern at Cerner Corporation (Kansas City, MO) ***May to August 2018***

- Developed an OAuth secured login page and enforcement system for an internal development web API uplift using Java, JSP, and Spring framework as a member of an Agile/Scrum development team.
- The internal web API monitored patient insurance processing and claims tracking.
- Presented work at the end of the summer in a cross-group meeting with members from the Kansas City, Malvern, and Bangalore partner teams.
- Mentored a high school student through learning Java to start his own project.

Undergraduate Researcher in Medical Device Development (Cleveland, OH) ***January 2017 to May 2019***

Biomedical Imaging Department, Case Western Reserve University

- Advanced a prototype for a more efficient device for Cystic Fibrosis detection in infants.
- Created a more precise data processing technique using sovitsky-golay filtering and parabolic interpolation to generate a smoother curve fit and more accurate output concentration values.
- Translated the data processing code from MATLAB and Arduino based into embedded C. This allowed the device to be compacted to a handheld device which used a microprocessor rather than a computer.

Student Worker at Think[box] (Cleveland, OH) ***June 2016 to January 2017***

- Assisted and educated users as they worked on personal projects involving the maker space equipment including laser cutters, 3D printers, and the wood shop.
- Maintained machinery (focused lasers, tested power levels etc.) and made tutorials for new equipment.

CERTIFICATIONS

- Security Journey Yellow Belt: Secure Development C/C++ Track **April 2020**
- NCESS Computer and Electrical Fundamentals of Engineering (FE) Certification **October 2020**