

Emmeline Pearson

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[LinkedIn](#) · [GitHub](#)

EDUCATION

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

M.S. Computer Science

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, Computer Architecture, Computer Networks, Software Design, Introduction to Artificial Intelligence (AI)/Machine Learning, Computer Logic and Circuits

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 sobolev-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
- NCESS Computer and Electrical Fundamentals of Engineering (FE) Certification

April 2020

October 2020