

LIAM M. MURPHY

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EDUCATION

Marquette University, Milwaukee, WI

Master of Science, Computing

May 2021 - May 2022 (expected)

Specialization: Information Assurance & Cyber Defense

Thesis: *Retargeting and Extending a Compiler for Security and Education* (in progress)

Bachelor of Science, Computer Science

August 2017 - May 2021

Minor: Spanish Language, Literature, and Culture

SKILLS

Programming Languages

Java, Python, C, JavaScript (Node.js), Scheme, ARM assembly, SQL

Software & Tools

Gherkin, \LaTeX , Git, Subversion, Vim, Eclipse, Linux, Oracle Database, IBM Rational DOORs, Azure DevOps, Review Board

General

Object-Oriented, Functional, and Structured Programming, Research

Foreign Language

Conversational in verbal Spanish, Proficient in written Spanish

EXPERIENCE

Astronautics Corporation of America, Oak Creek, WI

June 2021 - Present

Software Engineer I

- Worked within a Scrum team to develop avionics system software in C within an embedded Linux environment according to customer specifications and government certification requirements
- Contributed towards operator-facing web tools written in JavaScript using React/Redux with a C back end
- Produced detailed product documentation and full software life-cycle data according to federal avionics regulations
- Performed rigorous product testing to ensure performance and to exceed safety standards according to the DO-178C certification standard
- Gained experience with the ARINC 665 and ARINC 615A avionics protocols and avionics software engineering practices

Northwestern Mutual, Milwaukee, WI

June 2020 - August 2020

Test Engineering Intern

- Translated business requirements into deliverables within a Scrum/Agile development environment
- Participated in Scrum ceremonies on two Agile teams
- Developed regression testing scripts using an internal automated testing framework
- Created on an onboarding application for new hires using React/Redux for Node.js

PROJECTS

ARMv7 Concurrent MiniJava Compiler

August 2021 - May 2022

Master's Thesis Project

- Implemented a 32-bit ARM backend and extended language features for the Concurrent MiniJava compiler at Marquette University
- Ported MiniJava system calls into the newest version of the Embedded Xinu kernel
- Concurrent MiniJava is an object-oriented language that supports console input/output, threads, and access modifiers

Embedded Xinu

January 2019 - May 2019

Operating Systems Semester Project

- Implemented integral sections of the Embedded Xinu kernel in C and 32-bit ARM assembly
- Gained experience with real multi-core operating system concepts on real multi-core hardware throughout the semester
- Continued learning and development through an undergraduate research program during the summer of 2019

ACTIVITIES

Shannon Rovers Irish Pipe Band, Chicago, IL