

Sebastian J. Hamel

He/Him



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Career

Software Engineer I

Feb 2022 – Nov Present

NASA/ToSC, Command & Control

Kennedy Space Center, FL, USA

- Software engineering of simulation software for Exploration Ground Systems for Artemis II, Artemis III
- Developed and verified software conforming to NASA Class C Software requirements
- Developed and debugged networked software communicating with PLC runtimes using the Common Industrial Protocol (CIP)
- Reverse-engineered legacy Rockwell PLC functions and designed their re-implementation and integration into a custom PLC emulator
- Created design presentations to coordinate strategy between workgroups to emulate various PLC functionality in emulation

Software Engineer I

Jun 2020 – Feb 2022

AFIT, Center for Space Research & Assurance

Wright-Patterson AFB, OH, USA

- Contributed to the first open-source spacecraft flight software framework written in Rust
- Developed CubeSat flight software in C with NASA's cFS framework and also in Rust with KubOS
- Developed CubeSat ground control software which interfaces with databases and TCP/UDP hardware interfaces in Python
- Automated generation of template files ingested by flight software and ground software to accelerate CubeSat mission development

Software Engineering Co-op

Jan 2019 – Aug 2019

NASA IV&V

Fairmont, WV, USA

- Contributed to NASA's open-source flight software simulator (NOS3) with upgraded packages and documentation
- Developed Rust bindings to C++ based hardware abstractions layers for NOS3 simulator
- Modeled CubeSat OEM hardware components into C++ emulators running in NOS3

Competencies

Primary Languages: Rust, C/C++, Python

Other Languages: Java, TypeScript, GraphQL, IEC 61131-3 Structured Text, Ladder Logic

CI/CD: GitLab CI configurations (YAML)

Content Management: Git, GitHub, GitLab

Software: Docker, Confluence/Jira, VersionOne, Visual Studio, VSCode

Education

Bachelor of Science, Computer Science & Engineering

Class of 2021

University of Toledo, ABET Accredited

Toledo, OH, USA

- Summa Cum Laude
- 3.97 GPA