

Sebastian J. Hamel

He/Him



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Education

Master of Science, Computer Science

Appalachian State University, ABET Accredited

Aug 2020 – May 2022

Boone, NC, USA

- Concentration in Systems
- Summa Cum Laude Honors

Bachelor of Science, Computer Science

Western Carolina University, ABET Accredited

Aug 2015 – May 2019

Cullowhee, NC, USA

- Minor in Mathematics
- National Honor Laureate

Career

Software Engineer I

NASA/ToSC, Command & Control

Feb 2022 – Nov Present

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

AFIT, Center for Space Research & Assurance

Jun 2020 – Feb 2022

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

NASA IV&V

Jan 2019 – Aug 2019

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, Python, TypeScript, Java

Human Languages: English ★★★★★, Danish ★☆☆☆☆

Content Management: Git, GitHub, GitLab, Artifactory, DockerHub, AWC

Systems Engineering: Kubernetes, Docker, Ansible, Terraform, Flux, Kustomize

CI/CD: GitHub Actions, GitLab CI

Databases: Redis, PostgreSQL, DynamoDB