Bryce Verberne

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EDUCATION

B.S, Computer Science Aug 2023 - Dec 2025
Arizona State University, Tempe, AZ 3.81 GPA

A.S, Computer Science Aug 2021 - May 2023
Scottsdale Community College, Scottsdale, AZ 3.91 GPA

SKILLS

Technical Skills
Languages: Python, C, C++, Java, MIPS Assembly
Software & Tools: Linux, Git, Tableau, Visual Studio
Embedded Systems: RTOS, ARM Cortex, Microcontrollers

Engineering & Management
Project Management: Agile Methodologies, Risk Management, Budgeting
System Design: Software Design, Verification and Validation

EXPERIENCE

Sun Devil Satellite Laboratory (SDSL): Software Engineer Apr 2024 – Present

- Contributing to the development and deployment of software for the Coconut CubeSat in collaboration with NASA, a nano-satellite selected for NASA's CubeSat Launch Initiative (CSLI).
- Configuring, developing, and maintaining firmware for satellite operations on Ubuntu systems and other Linux distributions.
- Following Agile Methodologies with iterative phases, regular reviews and feedback, and cross-functional collaboration amongst software, electrical, and mechanical sub-teams.
- Collaborating with a dynamic team to prepare the Coconut CubeSat for its scheduled launch between 2024 and 2027.

NASA L'SPACE MCA: Deputy Project Manager & Computer Hardware Engineer Jan 2024 – Apr 2024

Computer Hardware Engineer:

- Solely responsible for the Command and Data Handling (CDH) Subsystem of a conceptual Mars rover, entailing the telecommunications, data computing, and software architecture subassemblies.
- Developed lower-level requirements and conducted trade studies to select sub-components for the CDH Subsystem.
- Identified risks, implemented redundancy, and determined mass, volume, and power specifications for the CDH Subsystem.
- Created software architecture flowchart and developed manufacturing and procurement plans for the CDH Subsystem.

Deputy Project Manager:

- Co-led a 12-member team to develop a Mars rover mission using Agile methodologies.
- Managed programmatic sub-team, tracking budget, schedule, and risks.
- Facilitated monthly iterative phases with specific goals and deliverables, conducting regular reviews and incorporating feedback.
- Bridged Science and Engineering teams for effective cross-functional collaboration and risk management.

Generation Tech Support: Technical Instructor Oct 2022 – Jan 2023

- Developed and delivered computer science education to classes of up to 30 primary and secondary students.
- Managed classroom dynamics and mentored young learners, preparing them for future challenges in technology.

PROJECTS

Sun Devil Satellite Laboratory (SDSL): Coconut CubeSat Apr 2024 – Present

- Facilitating command, control, and communication between flight software onboard the satellite and ground software at ASU.
- Utilizing OpenC3 COSMOS to configure communication over FTDI with flight and ground software.
- Working with Space Packet CCSDS protocols and managing peripherals like UARTs, I2C, and SPI serial communication.
- Developing and debugging C code on an ARM Cortex microcontroller with real-time operating systems in Ubuntu.

SatComm Optimizer May 2024 – Present

- Collaborating with a Business Analytics major from CSUN to enhance and visualize satellite communication network algorithms.
- Visualizing real-time positions and capabilities of Iridium satellites using CesiumJS and satellite-js with TLE data from Celestrak.
- Integrating Python-driven data with JavaScript to depict satellite interactions with ground stations and inter-satellite links.
- Developing Python algorithms to optimize satellite communication processes, feeding performance data into visualizations.