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AUSTIN BODZAS

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Objective

To advance the state of modern technology through the development of innovative software systems.

Technical Skills

C++, Python, C, Git, Linux, CI/CD, Docker, Unit Testing/Mocking, Systems Engineering

Engineering Experience

Blue Origin *Software Engineer | Kent, WA* July 2019 – Present
New Glenn – Heavy-Lift Orbital Launch Vehicle

- Designed modular driver architecture to handle virtually every sensor and actuator on both stages of the vehicle.
- Integrated all software components and wrote system-level tests for a safety critical avionics box.
- Developed Python tooling to generate flight-specific configurations for New Glenn drivers.
- Wrote requirements for DO-178 safety critical flight software.
- Organized a companywide suite of recurring educational events for the Avionics Software community, fostering development and collaboration for over 90 employees.

Johns Hopkins Applied Physics Laboratory *Software Engineer Co-Op | Laurel, MD* Jan 2018 – July 2019
NASA DART – Double Asteroid Redirection Test Mission

- Wrote flight software utilizing NASA Core Flight Executive.
- Adapted Ball Aerospace COSMOS ground software to work with DART's command and data handling system.
- Leveraged code reuse by porting over software from Parker Solar Probe for DART.
- Collaborated on DART's software testbed developing in C++ and utilizing NASA cFE.

Software in the Loop Environment for Testing Flight Software (SWIL)

- Created adapters to relay SpaceWire traffic over UDP for testbed and flight software.
- Utilized Docker to develop an environment that increased frequency of testing by a factor of four.
- Enabled developers to rapidly implement features and test on development machines.
- Attended Dockercon San Francisco where work on SWIL was presented to the main audience.
- JHU APL Explorer Award granted to DART team for bringing modern software practices to space.

Deep Learning for Space — Internal Research and Development (IRAD)

- Ported over flight software to run on an ARM64 Jetson TX2 running Ubuntu.
- Developed NASA cFE application to integrate with an image classifier and telemeter classifications.
- Implemented ground software to process incoming data and to display on an OpenLayer map using web technology.

L3 Global Communications Solutions *Software Engineer Co-Op | Victor, NY* Jan – Aug 2017
VSAT Ground Stations

- Developed embedded software in C for AVR devices.
- Worked in-depth with serial communication.
- Created driver interfaces to ancillary hardware.

Current Side Project

High Altitude Balloon Software June 2020 – Present
Flight and Ground Software Lead

- Presented design for a Preliminary Design Review on Flight Software.
- Designed software architecture across the ground and all onboard processors.
- Collaborating with mechanical and electrical engineers on software requirements.
- Beginning development of embedded Linux applications in Rust.
- More information and preliminary design available at: https://brickworks.github.io/Nucleus/

Education

Rochester Institute of Technology *Rochester, NY* Jan 2016 – May 2019
Computer Science, Bachelor of Science
GPA: 3.7, magna cum laude