JOSH ORTNER

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PROFILE

Experienced Software Engineer with a strong background in Embedded Software and 3D graphics. Proficient in C, C++, Go, Python and JavaScript. Skilled in collaborating with multi-disciplinary teams to develop scientific instruments and satellite payloads.

EXPERIENCE

January 2022 - Present

Embedded Software Engineer*, *Los Alamos National Laboratory

Develop concurrent, real-time, embedded software and supporting PC software for space-based scientific instruments.

Interface with principal scientists and engineers to understand requirements and implement features according to project timelines.

Software lead for a novel scientific sensor designed to operate in space. I manage the design and implementation of various interconnected sub-systems, working with external partners and stake holders to define software requirements.

August 2021 – December 2021

Data Science Research Intern, *Los Alamos National Laboratory*

Implemented algorithms in Python to model the spectral patterns of military action given remote sensing data. Presented work to fellow interns and Scientists.

January 2021 – April 2021

Deep Learning Research Intern, Oak Ridge *National Laboratory*

Researched remote sensing machine learning techniques. Successfully implemented a web-based image analysis tool to analyze a flooded urban environment and enhance the efficiency of humanitarian disaster response efforts.

EDUCATION

Middle Tennessee State University, *Murfreesboro, TN*
B.S. Computer Science – 3.5 GPA

KEY SKILLS AND CHARACTERISTICS

Languages: C, C/C++, Go, Python, JavaScript (React), C#

Software/Frameworks/Libraries: GitHub, GitLab, OpenGL, Vulkan, CMake, OpenCL, GLSL, CUDA, HDF5, ImGui

Embedded Platforms/Tools: BSPs, Real-Time Operating Systems, Vorago, Microchip, Keil IDE, MPLAB IDE, ARM Cortex M4/M7, Raspberry Pi

PUBLICATIONS

C. A. Maldonado et al., "Development of the ESRA CubeSat Mission to GTO," 2023 IEEE Aerospace Conference, Big Sky, MT, USA, 2023, pp. 1-17, doi: 10.1109/AERO55745.2023.10115949.

Maldonado, Carlos A., et al. 2023. “Prototype testing results of charged particle detectors and critical subsystems for the ESRA mission to GTO,” *Proceedings of the Missions at Scale Conference*, Science/Mission Payloads, SSC23-III-05. http://digitalcommons.usu.edu/smallsat/2023/all2023/83/.

Maldonado, Carlos A., et al. 2022. “The Experiment for Space Radiation Analysis: Probing the Earth's Radiation Belts using a CubeSat Platform,” *Proceedings of the Out of this World Conference*, Beyond LEO, SSC22-II-07. http://digitalcommons.usu.edu/smallsat/2022/all2022/147/.