Matthew Gramlich

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Education

Bachelor of Science, Computer Engineering: West Virginia University
Bachelor of Science, Electrical Engineering: West Virginia University   Fall 2018

Skills

Real-Time Embedded Firmware Design (uC/OS, FreeRTOS, VxWorks)
Xilinx Kintex Ultrascale, Zynq-7000 FPGA SoM Development
Multi-Threaded and Multi-Tasking Computer System development.
Proficient in C, C++, Java, LabVIEW, Robot Operating System (ROS)
Experienced with Python, Verilog, SystemVerilog, Vivado IDE
Experienced with Git, QT, MATLAB, Microsoft Office products

Relevant Experience

Advanced Processors – Software Developer   April 2019-Present
Lockheed Martin Missiles and Fire Control – Orlando (FL)
- Fulfilled multiple roles in systems integration of new hardware product into longstanding DoD contract. Roles included FPGA firmware debugging, software interface design for hardware integration, and operating system driver development.

Embedded System Programmer and ROS Software Programmer   Aug 2014-December 2018
Interactive Robotics Laboratory - West Virginia University - Morgantown (WV)
- Embedded Firmware designer for the WVU Cataglyphis rover. Supported many land and air based research vehicles computing systems. Developed ROS enabled systems for communication and application abstraction.

Advanced Processors – Software Developer - Intern   May 2018-Aug 2018
Lockheed Martin Missiles and Fire Control – Orlando (FL)
- Primary Software developer for design and implementation of new maintenance capabilities for a longstanding DoD defense program.

Lead RockSat-X Payload Firmware and FPGA Engineer   Jan 2017-Aug 2017
West Virginia University – NASA IV&V - Morgantown (WV)
- Utilized Xilinx Zynq-7000 FPGA SoM to show viability of solid state particle detectors in outer atmosphere. System implemented custom IP cores to analyze noise floor, capture particle events, and transfer event data to Debian environment for storage.
- Provided in-flight data logging and radio relay system for four independent, asynchronous serial lines for other experiments.

Lead NASA Robotic Mining Challenge (RMC) Software Engineer   Sept 2016-June 2017
West Virginia University - Morgantown (WV)
- Directed the efforts of a software team of four for the 2017 WVU RMC robot. The delivered system autonomously completed competition with a possibility of teleoperation for dangerous situations.

Lead RockSat-C Payload Firmware Engineer   Jan 2016-June 2016
West Virginia University - Morgantown (WV)
- Developed computer system for a continuous 2 KHz sample rate of on-board Langmuir Probe and precision Accelerometer. System multi-tasked with data movement between data storage and data recording tasks.

Sounding Rocket Payload Flight Software Programmer   Jan 2015-Dec 2015
West Virginia University - Morgantown (WV)
- Lead Embedded Firmware designer for the Undergraduate Sounding Rocket Instrumentation Project (USIP)
- This system launched aboard the MUSIC sounding rocket out of Wallops Flight Facility, VA on March 1, 2016.

Awards

- 2016 NASA Centennial Sample Return Robot Challenge- 1st Place- 11 Points
- 2015 NASA Centennial Sample Return Robot Challenge- 1st Place- 3 Points