Bryce Kellogg

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Education

University of Washington

Master's of Science in Electrical Engineering	June 2016
Bachelor of Science in Electrical Engineering	June 2013
Bachelor of Science in Computer Engineering	June 2013

Industry Experience

Tethers Unlimited   September 2021 - Current
Aerospace component provider specializing in communications & robotics
Senior Embedded Software Lead
- Lead a team of software engineers in developing mission critical software for satellite payloads
- Worked with Project Managers to ensure successful execution of the schedule given available resources
- Designed full software architecture for a multi-processor satellite payload to meet mission requirements
- Wrote device drivers in C for custom hardware & FPGA peripherals
- Implemented ROS2 based system for a space based robotic arm
- Developed "FlatSat" test procedures & performed testing to validate that software met requirements
- Spearheaded adoption of automated unit testing to increase reliability and reduce regressions
- Drove standardization of build procedure to make onboarding and collaboration more efficient
- Ensured quality code & design documentation through mentoring, review feedback, & process improvements

Jeeva Wireless   March 2015 - September 2021
Reimagining connectivity for ultra-low power IoT
Director of Engineering & Co-Founder
- Implemented Wi-Fi, BLE, and Zigbee protocol stacks in C and Verilog
- Developed real time firmware for ARM SoCs using FreeRTOS and TI-RTOS
- Implemented bare metal device drivers for SPI/UART/ADC/DMA microcontroller peripherals
- Designed scalable backscatter communication systems for IoT, smart homes, and industrial sensing
- Architected product platforms to meet project priorities and ensure on time projects and deliverables
- Steered long term goals with other upper management in hiring, tech development, and company vision
- Designed products to meet customer pain points in the IoT and wireless sensing space

UW Mobile Systems Lab   June 2013 - May 2017
Leading research lab on backscatter, wireless power, and mobile systems
Graduate Researcher
- Developed backscatter communication systems for sensors and IoT applications
- Designed custom software defined RF receivers using GNU Radio and USRPs
- Performed extensive RF experiments both in an anechoic chamber and in real world scenarios
- Developed firmware for power harvesting platforms that used less than $30\,\mu W$
- Optimized MSP430 and ARM firmware for low power embedded systems
- Hacked Linux kernel device drivers to perform obscure research functions

Xilinx Inc.   August 2011 - August 2012
Largest FPGA manufacturer in the world
Test and Validation Intern
- Implemented Linux kernel device drivers for various custom ARM processor peripherals
- Managed embedded Linux device tree files for Zynq SoC-FPGA platform
- Wrote Verilog and C tests for FPGA fabric, ARM core, and the interface between HW and SW

Technical Skills

- C/C++
- Python
- Java
- Verilog
- Matlab & Octave
- Git
- Wireless Comms
- FreeRTOS & TI-RTOS
- UART/SPI/I2C
- Wi-Fi/BLE/Zigbee
- Linux
- LaTeX