

Harlan Waldrop

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Education

Oregon State University

B.S., Electrical & Computer Engineering, Summa Cum Laude, GPA: 3.93

- Focus in statistical signal processing, digital design, and communication theory
- *Burgess/Tektronix Award* – Presented to an outstanding senior in engineering based upon industrial experience, leadership, and academic performance.



Experience

Merlin

Staff Software Engineer

Boston, MA

2023 – present

Collins Aerospace / Raytheon Technologies / BAE Systems

DSP/ASIC Engineer II, Clearance: Secret

Cedar Rapids, IA

2019 – 2022

- Model-based sub-system lead for state-of-the-art tracking engine (next-generation M-code receiver)
- Independently authored whitepaper on software and hardware performance for channel-coding algorithms
- Full development cycle: R&D to initial netlist delivery
 - Translated performance requirements and wrote test procedures, ICD, DDD
 - Designed and implemented channel-code algorithms for performance critical tracking loops (C++)
 - Developed new stream re-ordering architecture to meet power requirements (Simulink)
 - 100x improvement to memory usage and output delay compared to previous iteration
- Implementation includes: DFT, FIR filter, correlator engine, application software

Prototype Engineer

Independent Contractor

Remote

2018 – present

- Design and assembly of low-power, embedded IoT platforms (C++, GPS, REST)
- Custom software integration (Electron/Tauri, NodeJS)
- Statistics-driven benchmarking and C, C++ \leftrightarrow assembly driven optimization

Oregon State University

Teaching Assistant – Comp. Sci., Elec. Eng., Digital Design

Corvallis, OR

2015 – 2019

- Mentored junior SoC-FPGA design students and wrote design manual

Danaher Labs

Software Engineer, Internship

Eugene, OR

2016

- Developed embedded/IoT stack (JavaScript, Modbus, NodeJS, REST)
- Factory calibration tool for particle counter (Windows CE, C#, MVVM, WPF)

Leadership

OSU Robotics Club (Mars Rover)

Senior Officer, Winner of Canadian International Rover Challenge (2018)

Corvallis, OR

2015 – 2018

Languages

Proficient: C, C++, PHP, Python, Rust

Comfortable: Bash, C#, Java, JavaScript, Lua

Software

Software: DOORS, Git, Jira, MATLAB, Model-Sim, Nginx, NodeJS, Simulink, SQLite, UVM

Linux: Binutils, Make, Device Drivers, Device Trees, Kernel Patching & Building