

Masters's Degree - University of Washington - Seattle, WA

September 2024 - June 2026

- Focus: Electrical Engineering
- Expanding my knowledge of Control Systems, Computer Architecture, and Embedded Systems.

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- Focus on Embedded Systems, Computer Architecture, and VLSI Design.
- Received an academic offer to enter as a freshman following high school 10th grade.
- Dean's List 8 consecutive quarters, 9 total quarters; GPA: 3.7.

Professional Experience

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September 2024 – Present

- Wrote low-level, highly optimized firmware for WISP-6 devices.
- Investigated the use of Rust to ease software development and encode microcontroller state.

Electrical Engineering Intern, OptiNav, Bellevue, Washington

June 2023 - Present

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- Included systems for UDP networking, DDR3 memory interfaces, and advanced DAC chips.
- Designed and manufactured low power and size constrained PCBs for use in testing situations.

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- Used programs such as AutoDesk Inventor, EasyEDA, and FormLabs to manufacture designs.

Leadership and Teams

Embedded Systems Engineer, Advanced Robotics UW

October 2020 - Present

- Primary software engineer for STM controlled power-constrained capacitor bank charging system.
- Included advanced software algorithms for PID control, filtering, and extreme safety measures.
- Used cutting-edge embedded Rust APIs and contributed features to expand library coverage.
- Managed development for an open-source robotics controls used by 10+ universities.
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Admin Board, The Quilt Project

April 2021 - Present

- Managed 40 developers on interconnected projects used by hundreds of thousands.
- Developed complex Java projects and APIs with automated tests and extensive documentation.
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Projects

PBKDF2 Accelerator, University of Washington

- Used SkyPDK130, Hammer CAD tools, BaseJump STL, and BSG tools.
- Implemented an accelerator for the PBKDF2 hash by optimizing HMAC and SHA256 accelerators.
- Theoretical performance 3x current CPUs at 0.01% the size and 50,000x the power efficiency.

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FPGA Based RISC-V Microcontroller, University of Washington

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- Included a five-stage pipeline to increase performance with basic branch prediction.
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Awards

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January 2021

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