Max McKelvey

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EDUCATION

University of Washington — Seattle, WA
Electrical and Computer Engineering — *Sept. 2021 – March 2024*
- 3.90/ 4.0 - Dean's List
- Studied with a focus on Computer Architecture, Digital Logic Design, and Embedded Systems

EXPERIENCE

Intel | *Pre-Silicon IP Validation, Connectivity Implementation, Dev Tooling* — June 2024 – Present
SoC Logic Design Engineer – GPU Core — *Hillsboro, OR*
- Brought up connectivity for new changes on the X^{e}Core level of hierarchy of the next gen GPU
- Doubled the number of checks in a specific validation methodology in 3 months
- Modernized our validation stack through the migration of validation checks to new, safer validation system

Groundlight AI | *Python, C++, Typescript* — June 2023 – November 2023
Software Engineering Intern — *Seattle, WA*
- Launched multi-platform no-code tools for a multipurpose customer facing computer vision pipeline
- Designed a custom mobile robot vision extension enabling warehouse and industrial inspections from image inputs
- Routed custom circuit boards and implemented embedded C++ connected to NextJS/Python web apps
- Coordinated with potential customers to pitch our API service
- Collaborated with clients to deploy applications I launched, both for internal testing and for deployment

Puget Buoy | *Swift, C++, KiCad* — March 2023 – September 2023
Software Engineering Intern — *Seattle, WA*
- Engineered the buoy deployment infrastructure to enable reliable communication and data redundancy
- Redesigned the buoy device for efficiency, allowing it to run more than 500x longer underwater without charging

University of Washington | *C++, KiCad, Typescript, Next.js* — September 2022 – July 2023
Research Assistant for Sep Makhsous — *Seattle, WA*
- Built infrastructure handling user and device traffic for the storage and retrieval of data
- Designed embedded sensor network for monitoring and alerts with 7+ environmental metrics
- Pitched the use of an embedded environmental sensor network to potential investors

University of Washington | *SystemVerilog* — September 2022 – June 2023
Undergraduate Teaching Assistant for Autumn EE 598 and Winter EE 271 — *Seattle, WA*
- Taught Digital Design and System Verilog discussion and lab to 120+ Undergraduate and Graduate Students
- Provided detailed tutorials, later incorporated into lesson plans with widespread positive feedback

Advanced Robotics at UW | *Python with Poetry, OpenCV, Rust* — September 2022 – Present
Software Engineer — *Seattle, WA*
- Developed a motion planning system for autonomous navigation localization, pathfinding, and behavioral control
- Optimized a pathfinding algorithm to reduce the average runtime from 77.3ms to 1.05ms per iteration

PROJECTS

oonu ai | *Embedded + Full Stack Development* — April 2024 – Present
Personal Startup Projects
- A "black box" personal assistant product – oonu.ai
- An ai news aggregator feeding SMS event updates – news.oonu.ai
- A tool sharing platform – tooltogether.com

Custom RISC-V CPU | *SystemVerilog and Assembly with Artix-7 FPGA* — January 2023 – March 2023
Computer Architecture at UW
- Engineered a custom cpu based on the RISC-V instruction set
- Refactored the custom processor to be pipelined to increase throughput by 5x
- Wrote bare-metal assembly programs for use on the cpu

ABOUT ME

Hello! I'm Max. I love to work on complex projects, design systems, and implement algorithms. For fun I work on personal electronics and software projects, am in various running and cycling groups, and play board games with friends.