Isaac Wu

isaacwu@uw.edu | imisaacwu.github.io/website/ | linkedin.com/in/isaacw1925 | +1 (425) 698-5297

Experience

Research Assistantship for Robotics Lab Development
January 2026 – Present

Autonomous, Robotics, & Connectivity Lab (PI: Sep Makhsous) *Seattle, WA*

- Will be developing an advanced robotics course with a focus on autonomous navigation and controls systems.

Sample Analysis and Support Division Intern
June – September 2025

Innovative Semiconductor Solutions *Vancouver, WA*

- Mastered and implemented advanced sample preparation methodologies for high-resolution microscopy analysis.
- Attained preparative microscopy skills operating Dual-Beam Electron Microscopes to prepare lamellas for imaging.
- Gained experience in the semiconductor industry, contributed to 14% reduction in processing times.

Lead Software Engineer
September 2023 – Present

Husky Robotics Team *Seattle, WA*

- Elected Lead of the Software Team on Husky Robotics, leading group of 15+ programmers.
- Worked in conjunction with 7 related subsystems to enhance custom-made Mars Rover to compete nationally (URC, CIRC).
- Responsible for developing **C++** Rover codebase for use on Jetson Orin NX, web-based control interface made with **React**, and a virtual simulation using **Unity** for testing.
- Developing and implementing inverse kinematics, autonomous navigation, robust wireless communication, and hardware-accelerated image encoding for sophisticated control over our rover.

Software Engineering Intern
June – August 2021

Cartogram *Bellevue, WA*

- Hired to be a full-time software engineering intern for an indoor mapping company working to make traversing unfamiliar indoor locations easier by using Bluetooth beacons and software to create GPS-like interfaces that will guide users to internal locations.
- Worked on solving location drifting–when a user's location would become inaccurate over time; added smart movement checking (determining if user is standing still/walking/running), boosting accuracy by as much as 70%.

Software Lead
August 2021 – June 2023

Titan Robotics Club (Competes in FIRST challenges) *Bellevue, WA*

- Led groups of 10-14 programmers per year in perfecting our robot's capabilities, helped more than 15 new members become acclimated to the FIRST program, created brand new projects to control and interface with retired robots, documented algorithms and won awards for software development.
- Developed **Java** programming skills, learned separate team libraries, created subsystem diagnostic unit tests, notated routines, aided with extensive fine-tuning of controls systems.
- Communicated and led 4 other drive team members as team's Drive Team Coach (*2021-2023*): held practices 3 times a week for 2+ hours and held competition strategy meetings with over a hundred robotics teams.

Projects

brAInstorm *October 2024*

- Developed full-stack web app that organizes users' thoughts in snippets of text or audio on a whiteboard and generates summaries of those thoughts, along with similar works for inspiration.
- Used OpenAI's **Whisper** trained on Intel's Tiber AI Cloud, leveraged Intel's AI PCs to tune and quantize our Multi-Modal LLM.
- Built backend on **FastAPI** with a RAG pipeline to push content to a **Perplexity** AI agent.
- **Won** UW's DubHacks' Intel-Sponsored AI Track for building cutting-edge AI applications with Intel-optimized software.

Personal Website *June 2024 – Present*

- Built from scratch using **React, Vite**, and **TypeScript** to showcase projects and demonstrate web development skills.

Webatro *June – September 2024*

- Developed a full-fledged web-based video game from scratch using **React**, **Vite**, and **TypeScript**.
- Made extensive use of hooks and custom reducers to track game state

SafeScroll Chrome Extension *October 2023*

- Created an extension that automatically blurs sensitive and potentially triggering content, including text and images.
- **Won** at UW's DubHacks Annual Hackathon out of **600+ contestants** for creative concept/name.
- Used **HTML**, **Tailwind CSS**, **JS**, and **JSON** for the extension & website, trained a **ML model** with **Python**.

Education

Computer Engineering *Grad. June 2027*

University of Washington *Seattle, WA*

- Notable Coursework: Robotics and Control Systems, Data Structures and Parallelism, Operating Systems, Embedded Systems, Computer Networks, Signal Conditioning