

Isaac Wu

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Experience

Sample Analysis and Support Division Intern

June 2025 – Present

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

Seattle, WA

- Elected Lead of the Software Team on Husky Robotics, led group of 11 programmers.
- Worked in conjunction with 7 related subsystems to enhance custom-made Mars Rover to compete nationally.
- Responsible for developing C++ Rover codebase, web-based control interface made with **React**, and a virtual simulation using **Unity** for testing.

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%.

FIRST Robotics (Jr. FLL, FLL, FTC, FRC)

September 2012 – June 2023

- Actively participated in FIRST WA robotics since the 2nd grade. Became increasingly proficient with multiple departments of robotics (software, engineering, documentation, communication).
- Titan Robotics Club (High School team, participates in FIRST challenges) *August 2019 – June 2023 (750+ hours)*
 - ✓ Software Lead (2021–2023): 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.
 - ✓ Software Team (2019–2023): Developed **Java** programming skills, learned a separate team library, created subsystem diagnostic **unit tests**, notated routines, aided with extensive fine-tuning.
 - ✓ Drive Team Coach (2021–2023): Communicated and led 4 other drive team members, who operate the robot during competitions, held practices up to 3 times a week for 2+ hours and strategy meetings with over a hundred other teams.

Projects

brAIInstorm

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

Maze/Labyrinth Generator

June 2024

- Developed a program to create mazes using **JavaScript**, generated using a randomized Kruskal's Algorithm and disjoint sets.
- Made to interface with a 2-D CNC machine to draw computed patterns.

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: Data Structures and Parallelism, Operating Systems, Embedded Systems, Signal Conditioning, Systems Programming, Foundations of Computing II, Matrix Algebra.

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CS Wonders Java Teacher's Assistant

June – August 2020

- Assisted the instructor **teach Java** in various levels.
- Required to: attend weekly TA meetings, prepare for bi-weekly classes by completing lessons and projects, lead discussions in groups of 5-7, assist students with assignments, and review and grade student work.

Skills

- **Software:** Java, Git, Typescript, React, C++, C, C# (*Microsoft Cert.*), Python, Linux, Vim, LaTeX, x86 Assembly
- **Autodesk:** Inventor/Fusion 360, Maya, Synthesis
- **Hardware:** Wiring tools, Basic power tools

TEXTILE (Tutorials for EXperimentalist Interactive LEarning)

June – August 2022

- Selected to be in the UW ChemE Disease Directed Lab (Nance Lab, PI: Elizabeth Nance) **Data Science Training Program**.
- Learned **Python**, data management, experimental design, and **image processing** alongside observing wet-lab techniques such as brain slicing and microscopy. Applied image processing and **machine learning** techniques to fluorescent brain cell images.
- Engaged in research skill workshops including how to read research papers, DEI and Ethics in Data Science Applied to Neuroscience, and career planning.