

Yong-Sung Masuda

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Honolulu, Hawaii

(614) 260-4717

Education

University of Hawaii at Manoa

M.S. Computer Science (2025)

AUG 2021 – AUG 2025

B.S. Computer Science (2023)

- GPA: 3.95, Dean's List (6 semesters)
- Treasurer, UH Ballroom Dance Club (2022–Present)

Technical Skills

Python, C, C++, C#, JavaScript, Java, SQL, React, MongoDB, Meteor, YOLOv8, Git, Bash, GNU, POSIX, Arduino, Jupyter Notebook

Experience

Computer Science Research Assistant — Naval Information Warfare Center

MAY 2024 – PRESENT

- Programmed Arduino and stepper motor drivers for actuator control.
- Developed CLI tools to operate motor control research systems.
- Designed microelectronic deposition procedures for graphene on SiO₂.
- Built ML models to classify microscopic 2D material structures.
- Analyzed data and co-authored a scientific paper.

Projects

Mosquito Larvae Detection — YOLOv8 Object Detection

2023

- Developed a detection system using YOLOv8 and Python to identify larvae and eggs in lab imagery, aiding vector control research.
- Labeled custom datasets and tuned models via transfer learning, achieving F1 score of 0.94 with strong generalization on test data.
- Built modular codebase in Jupyter Notebook with independent training, inference, and counting pipelines.

Optimal Sailor — Autonomous Marine Routing

2023

- Built a UI and wind-aware A* pathfinding system using Python, Cartopy, and Pygrib for NOAA-based marine routing.
- Modeled sailboat performance constraints and implemented land detection to generate valid paths over dynamic marine terrain.

CarbonZero — Meteor Hackathon (2nd Place)

2022

- Co-developed a sustainability app using Meteor, MongoDB, and React; won 2nd place out of 94 teams.
- Designed gamification and forum features, enabling real-time user progress tracking and regional competition across O'ahu.
- Delivered live demo to industry judges; project featured in UH News and Meteor Blog.

Publication

Electronics Journal, MDPI

Accessible and Inexpensive Parameter Testing Platform for Adhesive Removal in Mechanical Exfoliation Procedures

JAN 2025

- Co-authored a paper detailing Arduino-powered testing equipment.
- Responsible for data validation, software integration, and technical drafting.
- DOI: 10.3390/electronics14030533

Military Experience

Ground Radio Repair Technician — U.S. Marine Corps

Nov 2017 – Aug 2021

- Diagnosed and repaired communication systems supporting ground operations.
- Led maintenance workflows to ensure uptime of tactical radio networks.