

Fiona Lin

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Education

Massachusetts Institute of Technology (MIT), Cambridge, MA
B.S. in Mechanical Engineering: Control, Instrumentation, and Robotics

June 2024
GPA: 4.8/5.0

Relevant coursework:

Unmanned Marine Vehicle Autonomy, Sensing, and Communication	Electronics for Mechanical Systems II
Advanced System Dynamics & Control	Medical Device Design
Human Systems Engineering	Design and Manufacturing

Skills

Fabrication and Rapid Prototyping: Fusion 360, Siemens NX, Machining and rapid prototyping, PCB design, surface-mount soldering, Microcontroller programming, KiCad

Programming/ Digital Systems Design Languages: C/C++, Python, Verilog, Arduino, Mbed, MATLAB, MOOS-IvP

Languages: Mandarin - fluent, Japanese - intermediate

Industry Experience

De-Ice, Somerville, MA

June 2024–Aug. 2024

Mechanical Engineering Intern

- Developed functional requirements for power delivery system components to meet aviation regulations.
- Proposed and prototyped two design concepts, and built a testing rig to simulate airplane spoiler movement.
- Evaluated performance of both designs, which met FAA component reliability regulations.

Milwaukee Tool, Brookfield, WI

June 2023–Aug. 2023

Mechanical Engineering Intern

- Measured weight and ergonomics of existing leaf blower design in detail (e.g., per-component weight, balance of moments).
- Redesigned the leaf blower (in Siemens NX) and integrated an experimental in-house motor design.
- Evaluated the new design to demonstrate improved airflow, a weight reduction of 30%, and better comfort.

Research Experience

MIT Biomimetics Lab, Cambridge, MA

Jan. 2022–Sep. 2022

Undergraduate Researcher

- Designed and fabricated experiment setup to test experimental capacitive sensors for detecting light touch on robotic fingers.
- Devised mechanical solutions for robust cable/connector management for the Tele-Operated Robotic Arm.
- Fabricated complementary parts, such as covers and mounts, for the robotic arm using 3D printing and Fusion 360.

MIT d'Arbeloff Lab, Cambridge, MA

Feb. 2023–May 2023

Undergraduate Researcher

- Fabricated, troubleshooted, and assembled FlowIO, a micro-pneumatic device prototype.
- Planned project timeline for manufacturing and assembly, anticipated potential roadblocks and ensured on-time completion.
- Investigated and repaired malfunctioning custom printed circuit board (PCB).

MIT Del Vecchio Lab, Cambridge, MA

Sep. 2024–Mar. 2025

Research Assistant

- Modeled non-linear biological circuits using ordinary differential equations (ODEs) and Python to simulate system behavior.
- Identified and evaluated key parameters affecting equilibrium points and their stability in biological circuit dynamics.

Relevant Projects

Autonomous System for Search-and-Rescue using Unmanned Marine Vehicles

- Design autonomous system for search-and-rescue mission using cooperating unmanned marine vehicles.
- Programmed in C++ all parts of the autonomous system stack: communication protocol, decision making, path planning, and collision avoidance.

Hana DRAM PCB

- Designed and assembled DRAM with discrete transistors on a PCB using KiCad.

Teaching Experience

MIT 2.005 Thermal-Fluids Engineering I, Cambridge, MA

Sep. 2024–Dec. 2024

Teaching assistant