

EDUCATION

Carnegie Mellon University

B.S. Electrical & Computer Engineering, minors in Physical Computing & HCI

May 2024

GPA 3.8

EXPERIENCE

Recurse Center

Aug 2024 - Nov 2024

Programming Retreat Participant

Developed web and hardware projects (see selected projects for more). **Organized** a physical computing **discussion group** and a **series of talks/workshops** aimed at introducing software programmers to hardware. Gained familiarity with OCaml, Go, Rust, and Haskell.

HARP Lab at CMU

May 2023 - May 2024

Full-Stack Developer & Research Assistant

Project lead for online multiplayer user study using **Flask**, **Socket.io**, **SQL/SQLAlchemy**, **JavaScript**, & **HTML/CSS**. Consulted on **study design** and algorithmic implementation of project aimed at **transparency** in **human-AI interactions**.

TRACES Lab at CMU / Center That CARES

May 2022 - Aug 2022

Teacher & Research Assistant

Helped **design** and **teach** creative engineering program with a focus on **co-design** with lower-income students and communities. Researched development of a **low-cost** suite of tools for introducing students to **physical computing** and programmatic thinking.

SELECTED PROJECTS

Notes From Afar | [Live Site](#) | [Documentation & Code](#)

Aug 2024 - Oct 2024

Designed, programmed, user tested, and deployed fully-functional web application where users can leave anonymous notes about their long distance relationships, using **Python**, **Django**, **Django Ninja** (RESTful API design), **TypeScript**, **React**, **HTML/CSS**, **MapBox API**, **OpenAI API**, **PostgreSQL**, and **Render**.

Hestia: a Home Assistant | [Documentation & Code](#)

Sep 2024 - Oct 2024

Built custom home assistant with voice interface on a **Raspberry Pi**, using **Python**, **Flask**, **TypeScript**, **React**, and **HTML/CSS** for an LAN-exposed dashboard, a **Picovoice** wake word model, **Azure** speech transcription & synthesis, **OpenAI API**, **Spotify API**, and a **Mosquitto MQTT** broker for process communication.

Real-Time Operating System

Feb 2024 - Mar 2024

Designed and programmed a **real-time reservation kernel** with **rate-monotonic scheduling** and **mutexing/immediate priority ceiling protocol** to manage multiple threads and shared resources. Code available upon request.

Guide Robot for Honda Research Institute

Jan 2024 - May 2024

Spearheaded **needs-finding**, **literature review**, and **storyboarding** processes and **presented work to stakeholders** at Honda. Programmed **LLM-powered voice assistant** for context-aware navigation vocal interface. Led integration of **IoT network** into navigation website.

SKILLS

Python, Django, Flask, TypeScript/JavaScript, React, HTML/CSS, Figma, User Testing, C, Embedded Systems