SHENAI CHAN

Pittsburgh, PA

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PERSONAL STATEMENT

I'm a versatile engineer, designer, and researcher with expertise ranging from IoT/embedded systems to full-stack development and user-centric design. My creative ethos focalizes around people: I love learning from the wonderfully diverse gamut of others' lived experiences to design novel technical systems aligned with human needs & desires.

EDUCATION

Carnegie Mellon University   **May 2024**

B.S. Electrical & Computer Engineering, minors in Physical Computing & HCI - **GPA 3.73**   *Pittsburgh, PA*

SKILLS, AWARDS, & CLASSES

Awards/Honors: Member of Eta Kappa Nu (ECE Honor Society), Recipient of Frank-Ratchye Further Fund grant for arts & tech research

Programming Languages: Python, C/C++, System Verilog, Java, JavaScript, HTML/CSS, MatLab, LaTEX

Other Frameworks/Skills: PCB Design, Laser Cutting, 3-D Printing, Webscraping, Flask, Websockets, SQL/SQLAlchemy, Git, Arduino, Processing, Pandas/NumPy, Product Design, Human-Centric Design

Relevant Classes: *(* denotes current classes as of Spring 2024)* Distributed Real-Time Embedded Systems*, Rapid Prototyping of Computer Systems*, Interaction Design*, Human-Centered Software, Digital Signal Processing, Human-Robot Interaction, Machine Learning, Gadgets & Sensors in HCI, Educational Tech

SELECTED PROJECTS

Real-Time Operating System   **February 2024 — Present**
- Design and program a **real-time reservation kernel** with **rate-monotonic scheduling** and **mutexing**/**immediate priority ceiling protocol** to manage multiple threads and shared resources

LLM-Enhanced Public Robotic Mobility Assistant   **January 2024 — Present**
- Lead the **Human-Robot Interaction Intelligence** team in a course where we are contracted to build a robot for **Honda Research Institute**; leverage LLMs for path planning using natural language

Blind-Accessible Digital Scale ⬀   **December 2021**
- Collaborated in interdisciplinary team to create digital scale designed for our blind client, leveraging **human-centric design principles** to produce unique **microcontroller**-powered device
- Scale outfitted with braille labelling, tactile bordered scale plate, and speaker output

RESEARCH & WORK

HARP Lab @ CMU ⬀   **May 2023 – Present**

Full-stack Developer & Research Assistant   *Pittsburgh, PA*
- Project lead on online multiplayer user study using **Flask**, **Socket.io**, **SQL/SQLAlchemy**, **Javascript**, & **HTML/CSS**; consult on study design and algorithmic implementation of project aimed at transparency in autonomous agent & human interactions

Student Taught Courses @ CMU ⬀   **August 2023 – Present**

Instructor for & Creator of 98-156: Contemporary and Marginalized Poetics Workshop   *Pittsburgh, PA*

ECE @ CMU ⬀   **January 2023 – May 2023**

TA for 18-290: Signals & Systems   *Pittsburgh, PA*

TRACES Lab @ CMU ⬀   **May 2022 – August 2022**

Teacher & Research Assistant   *Pittsburgh, PA*
- Helped design and teach creative engineering program in partnership with the Center That CARES, with a focus on **co-design** with lower-income students and communities
- Researched how to develop a **low-cost** suite of tools for introducing students to **physical computing** and programmatic thinking; collaborated with students to synthesize their interests with course material

Collective Intelligence Lab @ CMU ⬀   **May 2021 – August 2021**

Data Analyst & Research Assistant   *Pittsburgh, PA*
- Analyzed data for study on the effect of mood on affiliation and collective intelligence in remote collaboration
- Utilized **Selenium** for webscraping, **Pandas** for management of numerical and transcription data, and **openSMILE** toolkit for speech analysis