Katherine S. Ho

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Objective

- To apply my classroom knowledge in an internship or co-op that would allow me to gain experience in the fields of digital design and computer architecture.

Education

The University of Texas at Austin **Expected 2024**
Bachelor of Science in Electrical and Computer Engineering *Austin, TX*

Relevant Coursework

Digital Logic Design; Software Design and Implementation; Intro to Embedded Systems; Intro to Computing; Circuit Theory; Linear Systems and Signals; Probability/Random Processes; Lin. Algebra/Matrices

Experience

Concord Consortium **August 2020 – May 2021**
Intern *San Francisco, CA*

- Developed STEM education materials for the PaperMech Project, which aims to educate elementary school students about basic mechanical design, electronics, and computational thinking by incorporating engineering concepts into familiar arts and crafts projects.
- Worked alongside teaching staff to develop a project to be taught to 23,000 elementary school students in the Hamilton County School District, TN.
- Researched the specifications and applications of different mechanisms to design and prototype various projects: paper circuits; gears, pulleys, and belts systems; rack and pinion mechanism; motorized Jansen walker sculpture; etc.
- Created easy-to-follow instructional guides (video tutorials, written instructions) for homemade projects and published them on social media platforms (Instagram, TikTok) and website: katieskontraptions.github.io

Projects

Programmable Stopwatch/Timer | *Verilog* **April 2023**

- Designed programmable stopwatch/timer with four different modes.
- Tested design using test-bench and implementation on FPGA.

Autonomous Robot | *C, ARM Assembly Language* **October 2022**

- Created a robot capable of autonomously navigating an obstacle course and completing tasks.
- Wrote C code to direct robot behavior patterns based on IR and color sensors input.

'Flappy Bird' | *C, ARM Assembly Language* **May 2022**

- Collaborated with a partner to recreate the popular mobile game on a physical game system.
- Focused on interfacing inputs (switches and potentiometer) and outputs (speaker and LCD display) with game engine.

Remote-Controlled Miniature Tank | *Arduino* **August 2022**

- Meant as one of two 'fighting' tanks.
- Wrote Arduino code to direct movement based on input from both wired and Bluetooth controls.

Technical Skills

Languages: C/C++, ARM Assembly Language, Verilog, MATLAB, Arduino
IDEs: CLion, Vivado, Keil uVision5, LC3Tools

Extracurricular

UT IEEE Robotics and Automation Society **Fall 2022 – Present**
Member

- Created an autonomous robot with a small team for 'Robotathon', a beginner's robotics competition.

Texas Wushu Team **Fall 2021 – Present**
Member

- Learn and practice contemporary wushu (Kung Fu) weapon and hand forms.

UT RecSports **Spring 2022 – Fall 2022**
Facility Assistant

- Monitored regulations regarding identification and facility use at Gregory Gymnasium.