Shih-Ling Shen

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OBJECTIVE

Apply digital design knowledge in the design and verification of real-world products.

EDUCATION

Bachelor of Applied Science in Electrical Engineering — **Sep 2022 - May 2026**
University of British Columbia — ***Vancouver, BC***

- Courses: Digital System Design, Computer Systems, Data Structures & Algorithms
- CGPA: 92.6%

WORK EXPERIENCE

APSC 160 - Undergraduate Teaching Assistant I — **Sep 2023 - Dec 2023**
University of British Columbia — ***Vancouver, BC***

- 2023W1 APSC 160 - Introduction to Computation in Engineering Design

ENGINEERING DESIGN TEAM

Electrical Team Lead — **Sep 2022 - Current**
UBC Sailbot — ***Vancouver, BC***

- Undergraduate student team focused on creating fully autonomous sailboats capable of sailing in the Pacific Ocean and collecting research data for climate change research
- Leading the electrical team consisting of more than 25 students in creating custom PCBs, firmware, motor systems, battery systems, and solar panel solutions

PROJECTS

Waveform Generator and Music Player — **Jun 2024**

- A GUI application running on NIOS II CPU that is written in C, SystemVerilog, and VHDL that serves as a music player and a waveform generator with various modulations at the same time

RC4 Decoder — **Jun 2024**

- Decodes RC4-encrypted 32 byte messages with a 24-bit secret key within 1 second using a 64-core hardware accelerator written with VHDL and SystemVerilog for the DE1-SoC

Simple RISC CPU — **Dec 2023**

- A RISC CPU written in SystemVerilog based on a custom architecture that can run up to 119 MHz
- Ranked 5th among 315 students and achieved a 2.006 geometric mean speedup compared to the reference CPU

AWARDS

- **2023W Dean's Honour List** — **May 2024**
- **Rogers Communication Inc Scholarship** — **Apr 2024**
- **2022W Dean's Honour List** — **Jun 2023**
- **Outstanding International Student Award** — **Apr 2022**

SKILLS

- **Software:** C, Linux, Bash, Assembly, Git, MATLAB, Python, Arduino
- **Digital Design:** SystemVerilog, VHDL, Quartus, ModelSim, QSys, DDS, PLL, NIOS II, Picoblaze
- **Communication Protocols:** CAN FD, I2C, NMEA 2000
- **Electrical Design:** Altium Designer, KiCAD, Soldering, Perfboard Prototypes
- **Languages:** English (Native), Mandarin (Native)