Zhihan (Tim) Lin

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Highlights of Qualifications

- Fourth year Electrical & Computer Engineering Student at University of Toronto.
- Excellent communication & collaborations skills demonstrated through ability to work effectively in a team or independently with minimal supervision.
- Proactive and accountable with ability to take strong initiative with demonstrated leadership skills through involvement in work and co-curricular activities.
- Strong time management and organizational skills that permit timely project completions.
- Highly creative and commended for being a quick learner with strong analytical and problem-solving skills.
- Multi-lingual with advanced proficiency in oral and written Mandarin with ability to apply business communication and capacity to service diverse client demographics.

Technical Skills

Technical Skills: SoC Validation, Project Management, SQL Query, Version Control (Git), Relational Algebra, Python, Ruby basics, C, C++, HDL (Verilog), Assembly Language basics, Pytorch, Tensorflow basics, familiar with Neural Networks such as CNN, RNN, familiar with ARM* Cortex* A9 processor structure and its instructions, familiar with network protocols such as HTTP, TCP, UDP etc. Familiar with ChatGPT related tools.

Tools: ChatGPT, MATLAB, Linux, Quartus/Modelsim, Visual Studio, Valgrind, Wireshark, skilled with LTspice, Simulink, Microsoft Office, Final Cut Pro and Adobe Premier.

Language: English (Fluent) & Chinese (Native)

Education

Bachelor of Engineering in Electrical & Computer **Sept. 2019 – Jun. 2024**
University of Toronto, Toronto, ON

Minor Program: Artificial Intelligence

Relevant Coursework*:* Algorithms & Data Structure I Computer Networks I C, C++ I Computer Architecture I Data Base | Machine Learning | Operating System | Control Systems etc.

Work & Experience

IP System Engineer Co-op @ AMD Markham

Aug. 2022 – Aug. 2023

- Supported senior IP system engineers in all aspects of SoC validation process, especially during post-silicon phases.
- Participated in several aspects of system validation and tests. Worked in test plan development, execution and validation.

- Utilized multiple debug & automation tools and techniques including self-developed scripts to fully participated in debugging AMD SoC when facing different types of issues/misbehavior from the SoC. Worked on multiple high-priority issues from our customers.
- Contributed to tool & automation development used by our Video Codec IP.
- Conducted knowledge share presentation to colleagues to present different ideas that could be beneficial.

Brain Tumor Detector Machine Learning Project based on Convolutional Neural Network (CNN)

Feb. 2022 – Apr. 2022

- In a team of 4, developed a ML model based on CNN architecture to train a brain tumor detector AI in 2 months.
- Conducted multiple research and studies to learn and explore different aspects of ML models. Studied their advantages and learned to utilized them on our model. Completed several progress reports and brainstorm meetings along the way to discuss different possibilities.
- Worked closely with other teammates to build and train the models to collect and analyze the results.
- Successfully built our final ML model to achieve a test accuracy of 98%

"Foodie Map" Geographic Information System & Algorithm Design (C++)

Feb. 2021 – Apr. 2021

- Worked on a C++ project in a team of 3. Tried multiple path searching algorithms to achieve fastest shortest-path search across several major city maps including Beijing, Toronto and Tokyo.
- Coordinated tasks and priorities in the team and conducted multiple progress reports to solve development issues.
- Utilized multiple algorithms such as A* and Dijkstra's algorithm. Significantly improved our searching efficiency and boosted program performance. Gained in-depth understandings on those path searching algorithms and learned some other tricks to optimize the program's run-time performance**.**
- Found and resolved multiple memory leaks by using Valgrind along the development process.

"Beach Volleyball" Video Game Design on ARM-based DE1-SoC system (Assembly Language)

Apr. 2021 – Apr. 2021

- Worked in a team of 2, using CPUlator (computer system simulator) to develop, test and debug a video game on Altera System-on-Chip FPGA (DE1-SoC). It allows two players to play volleyball game by controlling the keyboard and visualizes the games on the FPGA's VGA display.
- Integrated multiple features and functions into our game to improve user experience, such as using the video-out port and allowing keyboard input.
- Learned about how FPGA works and functions, and gained more knowledge on the I/O address allocation. Despite the challenge in understanding the FPGA, the project allows me to gain knowledge about how hardware and software function and interact in a program.

Text Conferencing Client/Server Application (C)

Nov. 2021 – Nov. 2021

- As a team of 2, using UNIX socket with TCP protocol, developed a client/server texting application in two weeks.
- Established multiple connections simultaneously using multithreading. Integrated a variety of features into the application such as private messaging and group chatting.
- Resolved multiple memory leak issues by analyzing and adjusting the data structures.

Achievements

Canadian Senior and Intermediate Mathematics Contests (CSMC) **Nov. 2018**

- Placed Top 25% of all participants. Recipient of School Championship.