Zhi Yang Chen

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EDUCATION

University of Toronto | BASc in Computer Engineering   **Sep 2021 - May 2025**

- Relevant Coursework: Software Design and Communication (C++, GIS Design), Algorithms and Data Structures, Operating Systems(Linux, VM), Applied Fundamentals of Deep Learning (Python, NumPy, PyTorch)

SKILLS

Programming Languages: C, C++, Python, JavaScript, Verilog (HDL), ARM Assembly, MATLAB, HTML, CSS, Bootstrap
Frameworks: React.js, Node.js, Express.js, Bootstrap, MongoDB, Mongoose
Developer Tools: Git, Github, Git Bash, Visual Studio, Intel Quartus Prime, Altium Designer, ModelSim, Multisim, AWS

EXPERIENCE

407 ETR Concession Company Limited   **May 2023 - Sep 2023**
Junior Tolling Field Technician - Full Time   Woodbridge, ON

- Conducted routine inspections, diagnostics, and adjustments to tolling equipment, maintaining peak performance of tolling sites and guaranteeing uninterrupted tolling operation
- Rigorously tested tolling equipment within a controlled laboratory setting, identifying and proactively addressing potential technical issues, resulting in reliable and accurate data transmission

Blue Sky Solar Racing   **Sep 2022 - Sep 2023**
Electrical Team   Toronto, ON

- Proficiently soldered and tested circuit boards, ensuring a high degree of performance and reliability for various electronic applications, improving the team's electrical systems
- Utilized Altium Designer to design PCB layouts, create component libraries, and develop schematics for various solar car electrical systems, contributing to system functionality and advancements

PROJECTS

YelpCamp | *Full-Stack Developer*

- Created a full-stack campground review web application, utilizing technologies including **Node.js**, **Express.js**, and **MongoDB** to build a dynamic and intuitive platform
- Designed and implemented a user-friendly front-end interface using **HTML, CSS,** and **Bootstrap**, elevating user experience through responsive design principles and **UX/UI** refinements
- Ensured seamless and secure user experience by deploying the application on Render, leveraging **AWS** infrastructure

OTFMap | *C++, GTK, Glade, EZGL, OpenStreetMap API, Git*

- Developed a GIS akin to Google Maps, utilizing **C++ (STL)** and **OSM API**, along with a customized database
- Implemented **Dijkstra's** and **A* algorithms** for fully optimized pathfinding in 20 different cities, surpassing all TA algorithms in travel time and ranking within the **top 10%** of the class
- Designed a user-friendly front-end utilizing **Glade** and **GTK**, allowing for responsive and efficient user interaction

Enhanced Processor | *Verilog HDL, ARMv7 Assembly, ModelSim*

- Developed a sophisticated **16-bit processor** with 8 registers and a robust **Arithmetic Logic Unit (ALU)** using **Verilog HDL**, incorporating a **Finite State Machine (FSM)** for precise control
- Seamlessly integrated various I/O devices, including LEDs, switches, and HEX displays, to create a captivating animation on a **DE1-SoC board**, leveraging **ARMv7 Assembly** programming