

RICHARD ZHANG

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Education

University of Waterloo

Sep. 2022 – Present

Bachelors of Applied Science in Systems Design Engineering- **3.85 GPA**

Waterloo, Ontario

- Digital Computation (C++) — Linear Algebra — Introduction to Design — Graphics (Solidworks)

Technical Skills

Languages: Javascript, HTML/CSS, C++, MATLAB, C#

Frameworks and libraries: Next.JS, React.JS, Prisma, PostgreSQL, Supabase, Tailwind, Axios.js, ASP.NET

Tools: Git, SQL, Solidworks, Confluence, Excel

Experience

University of Waterloo Alternative Fuels Team

October 2022 – Present

Front-end-Developer and Connected Autonomous Vehicles dept.

Waterloo, Ontario

- Utilized **React.js** to develop University of Waterloo Alternative Fuel Team's custom user friendly website.
- Collaborated with different development teams to develop the Competition History Module
- Researched differences between multiple lateral controls models using **SIMULINK** for the Advanced Driver Assistance System (ADAS).
- Utilized **MATLAB** and **SIMULINK** models to develop and constant radius maneuver algorithm for the 2023 Cadillac Lyriq

International Baccalaureate (IB) Council

May 2019 – August 2019

Grade representative

Aurora, Ontario

- * Collaborated in bi-weekly meetings to organize events for IB Students
- * Led the development of program-specific tutoring and feedback sessions for diploma final projects
- * Increased average participating student grades by 15% compared to draft predicted grades

Projects

Zeno - Journaling App *Next.JS, Supabase (with PostgreSQL), Tailwind CSS,*



- * Solo-developed a fullstack journalling app with user authentication and CRUD functionality for journal entries
- * Utilized **Next.JS** for server-sided rendering and creating api routes.
- * Implemented **Supabase Auth** with multiple login providers as well as **Postgres** row-level security policies to secure the app.

Persona Generation app *Next.JS(React), Javascript, Tailwind CSS, OpenAI API*



- * Streamlined persona generation process for user-centered design testing using **OpenAI's Davinci** to randomly generate user profiles/stories
- * Designed a modern website using **Tailwind CSS** and **DaisyUI** alongside **React** hooks to dynamically update the page

Restaurant Map web application *React, Javascript, HTML/CSS, Google maps API*



- * Incorporated **React.js** and **Material UI** to develop mobile-responsive application to display restaurants nearby student accommodations for university students
- * Constructed HTTP requests using **Axios.js** from **google-maps API** and **Rapid API** to display restaurants and map data

.NET MVC Contact us Page *.NET, C#, MVC Design Pattern*

- * Developed ASP.NET Core web application using C# and MVC (Model-View-Controller) pattern to create front end for a contact-us page
- * Proficient with MVC Design pattern and Razor Pages

Business Management Extended Essay

[paper link](#)

- * Analyzed the business strategies of Loblaw's using the **BCG Matrix** and **Ansoff's Matrix framework**
- * Utilized force field diagrams and Ansoff's matrix to assess the effectiveness of their e-commerce and product branding strategy in a post-pandemic environment

Student Design teams / Clubs

- University of Waterloo Alternative Fuels team
- University of Waterloo Muay Thai