RICHARD ZHANG

Waterloo, Ontario

✉ r29zhang@uwaterloo.ca   🔗 in/rz2004   ○ @notzree   </> rzhang.vercel.app

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 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 - Journalling Web App *Next.JS, Supabase (with PostgreSQL), Tailwind CSS,*   </>
* Solo-developed a fullstack journalling app with user authentication and CRUD features using **Next.JS**
* Designed **REST** API's for CRUD operations with **Next.JS**
* Implemented **Supabase Auth** with multiple login providers as well as **Postgres** row-level security policies for security

Persona Generation Web app *Next.JS(React), Javascript, Tailwind CSS, OpenAI API, Prompt Engineering*   ○
* Streamlined persona generation process for user-centered design testing prompting **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 asynchronous 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 Loblaws 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