KAYNE CHU

📞(647) 972-9298 | ✉️k33chu@uwaterloo.ca | ⭘github.com/Kayne-cmc | 🌐kaynechu.com

---

Technical Skills

- **Languages:** JavaScript, TypeScript, Java, C++, C#, HTML/CSS
- **Technologies:** React, Vue, VueX, ThreeJS, Express, Node, .NET, MongoDB
- **Tools:** Git, Postman, Heroku, Netlify, Jest

Experience

Game Developer / ArenaX Labs – Toronto, ON   Mar 2022 – Present
- Designed and implemented core game logic for an AI-based fighter game using **JavaScript** and **ThreeJS**
- Reduced knockout computation time by **90%** through approximation of knockback trajectory
- Improved existing visual effects system to allow queuing and playing multiple effects simultaneously
- Streamlined collision detection system by reworking existing spatial hash map updates

Software Engineering Intern / MCAP Mortgages – Waterloo, ON   Sept 2021 - Dec 2021
- Implemented front-end features for a large-scale mortgage web application using **Vue** and **VueX**
- Ensured code security through test-driven development by creating unit tests for application modules using **Jest**
- Optimized project timelines by effectively managing tasks in an **Agile** environment

Process Engineer / BWX Technologies – Cambridge, ON   Jan 2021 – Apr 2021
- Overhauled training evaluation software for a multi-million-dollar nuclear project using **Excel VBA**
- Improved data collection efficiency by **50%** by implementing user feedback and optimizing data compiling features
- Assessed training processes with collected data to evaluate inefficient procedures and provide recommendations

---

Projects

BrawlBuddies – Full Stack Web Application ⎋   Feb 2021 – June 2021
- Created a website to retrieve Brawlhalla player data and match users in the same region with similar in-game rank
- Encrypted and secured user information stored in a **MongoDB** database using **JSONWebToken** authentication
- Retrieved and updated player data by processing server requests through a **REST API** created with **Express**
- Dynamically rendered player information using **React** components and **MaterialUI**

Workout Tracker – MERN Stack Application ⎋   Feb 2021 – Mar 2021
- Developed a web application to create, edit, and display workouts stored in a **MongoDB** database
- Constructed an **Express** server to handle POST and GET requests for retrieving and creating workouts
- Accepted and displayed user input dynamically using **React**

Escape The Cave – Java Mobile Game ⎋   June 2020 – Aug 2020
- Developed a score-based mobile application that involves player interaction with a virtual character using **Java** and **Android Studios**
- Worked through several iterations to fix diagnostic issues and optimize the performance of the application

aCADemic's Hyperloop Design   Jan 2021
- Collaborated with a team of students in the McMaster Designathon to develop a model for a hyperloop interior
- Revised designs to meet the given challenge objectives and required features
- Created and presented a 3D model of the hyperloop interior using **SolidWorks**

Education

University of Waterloo – Waterloo, ON   2019 - 2024
Bachelor of Applied Sciences – Mechanical Engineering Co-op