

KAYNE CHU

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Experience

Software Engineering Intern / Microsoft – Vancouver, BC Feb 2023 – Present

- Implementing features for several internal software applications used in game development at The Coalition
- Reworking current processes to allow local testing for various game builds and devices using **C#** and **WPF**
- Creating CI/CD pipeline jobs to build and deploy internal libraries used by developers
- Developing a platform to connect multiple software tools through cloud services

Game Developer / ArenaX Labs – Toronto, ON Mar 2022 – Nov 2022

- Designed and implemented core game logic for an AI-based fighter game using **JavaScript** and **ThreeJS**
- Reduced opponent 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 **TDD** by creating unit tests for modules using **Jest** with a coverage of **95%**
- 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
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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

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
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Education

University of Waterloo – Waterloo, ON 2019 - 2024

Bachelor of Applied Sciences – Mechanical Engineering Co-op

Technical Skills

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