KAYNE CHU

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Experience

Software Engineering Intern / Microsoft – Vancouver, BC   Feb 2023 – Present
- Implemented features for several internal software applications used in game development at The Coalition
- Reworked automation process to run custom tests locally for various game builds and devices using **C#** and **WPF**
- Ensured efficient and durable application processes by developing **multithreaded** programs
- Created **CI/CD** pipeline jobs to build and deploy internal libraries used by developers
- Reduced application memory usage by **20%** using performance profilers to detect memory leaks

Game Developer / AI Arena– 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

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

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