Michael Kim

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EDUCATION

Johns Hopkins University **May 2025**

Degree (BS), Major (Computer Science) *Baltimore, MD*

- *Relevant Coursework*: Advanced Algorithms, Artificial Intelligence, Computer Systems (C /C++), Data Structures and Algorithms (Java), Discrete Mathematics, Linear Algebra, Intermediate Programming (C/C++)

EXPERIENCE

Ohanasoft **May. 2023 - Present**

Web Developer/Consultant Assistant *Honolulu, HI*

- Effectively deployed data-driven websites on Oracle Cloud, optimizing data organization and presentation to meet clients' unique needs. Orchestrated comprehensive documentation detailing the construction of the application, ensuring transparency and facilitating future enhancements. Conducted thorough SQL-based data analysis, delivering actionable insights and recommendations to clients.

Teaching Tools **Feb. 2023 - May. 2023**

Backend Developer *Baltimore, MD*

- Built a website that auto generated lesson plans by sending prompts stored in **MongoDB** to OpenAI API. Engineered a customizable Jinja page for flexible OpenAI setting adjustments using Yaml and Flask integration.

Quest2Learn **Sep. 2021 - Sep. 2022**

Augmented Reality Programmer/Data Analysist *Baltimore, MD*

- Led a dynamic team to pioneer an AR-based distance learning app, simulating immersive lab environments for 100+ users. Utilized advanced data analysis (Pandas, Numpy), revealing a compelling 75% preference for Quest2Learn. Received 2021 DELTA Award and $50,000 grant for exceptional achievement.

PROJECTS

FinLife: Personal Finance Tracker

- Developed a personal budgeting website where users can track their finance using **Express.js** and **MERN stack** along with **React and Typescript.** Implemented features to fetch transactions and account balances from bank accounts, utilizing **Material-UI** to display spending amounts.

Fault Tolerant Multithreaded Chat Server Video Demo

- Constructed a robust chat server in **C++** with efficient synchronization and deadlock handling, facilitating a seamless communication along multiple users in a remote server while ensuring thread safety. Employed efficient protocols to enhance real-time messaging experience and optimize data flow.

Agent Swarming Simulation Video Demo

- Orchestrated a sophisticated swarm simulation utilizing **MATLAB** to replicate and analyze collective behavior of autonomous agents. Formulated advanced algorithms to govern the intricate interplay of agent orientation, attraction, and replusion, driving emergent swarm dynamics. Executed meticulously designed experiments to simulate the behaviors exhibited by various animal swarms, such as the coordinated movements observed in fish schools. Gained profound insights into complex adaptive systems through the exploration of emergent phenomena and algorithms interactions within the simulated swarm environment.

Advanced C++ Cache Simulation and Optimization

- Designed and implemented a sophisticated C++ cache simulator, meticulously analyzing memory access patterns, optimizing cache hit rates, and evaluating performance. Employed advanced data strucutres to faithfully replicate diverse cache behaviors across varying sizes and replacement strategies, substantiated by comprehensive test cases to ascertain the efficiency of each policy.

C++ Object-Oriented Chess Game Picture Demo

- Collaborated with a team to develop a **C++** chess game, applying object-oriented programming principles to implement core chess mechanics and win conditions.

SKILLS

- **Skills:** Git, Java, C, C++, C#, Javascript, MongoDB, React, React Native, Python, Pandas, SQL, Node.js