

KAYNE LEE

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EDUCATION

Queen's University

Bachelor of Applied Sciences (Honors), Computer Engineering

Kingston, ON, Canada

2022 – 2026

- **Academics:** Queen's University Excellence Entrance Scholarship, OKBA Excellence Scholarship
- **Relevant Coursework:** Data Structures & Algorithms, Object Oriented Programming, Discrete Mathematics, Data Science

PROFESSIONAL EXPERIENCE

Debacle

Software Developer

Toronto, ON, Canada

Winter 2024

- Engineered a highly effective Shopify plug-in app, leveraging data from over **250** Shopify stores worldwide. Employing JSON, Python, and advanced machine-learning techniques to generate keywords for user recommendation enhancing user engagement and sales conversion rates.
- Implemented secure authentication with Shopify AUTH and optimized query efficiency with GraphQL resulting in a **30%** reduction in response time
- Addressed and debugged complex challenges including Admin Block issues resulting in a **40%** increase in app stability and optimized performance.

Queen's University

Teaching Assistant

Kingston, ON, Canada

Winter 2024

- Delivered comprehensive support to over **200** students specializing in computer programming concepts ensuring proficiency. Addressed individual queries with precision, fostering a strong foundation of key principles and delivering feedback on assignments for improvement.
- Demonstrated leadership, communication, and problem-solving skills through active engagement with students and collaborative teamwork. Leveraged cutting-edge tools such as CLion and Gradescope, streamlining processes and facilitating a dynamic exchange of information.

EXTRACURRICULAR ACTIVITIES

Queen's Tech & Media Association

Senior Software Developer

Kingston, ON, Canada

2024 – Present

- Spearheaded the development of a robust “minimum viable product” and prepared it for a successful launch. Led technical evaluations for **10+** initial product ideas, determining feasibility and guiding the project direction.
- Engineered a software product using **5+** distinct technologies, contributing to a full-stack solution that enhanced system performance by 30%.
- Orchestrated comprehensive test suites for debugging purposes, resulting in **15%** reduction in post-launch bugs and issues.
- Acted as a dynamic leader within the development team, directly managing a sub-team of 4 developers and oversaw contributions to the project.

QMIND (Queen's AI Hub)

Product Team

Kingston, ON, Canada

2023 – Present

- Led the development of a club portal leveraging Next.js focusing on optimizing user experience through server-side rendered pages. Developed an authentication system and a user-friendly project upload interface, utilizing Next.js API routes to ensure secure and efficient data handling.
- Engineered the backend infrastructure using Supabase, enabling real-time data synchronization and secure storage. Implemented advanced security features, including role-based access control and JWT authentication, to protect user data and project submissions.
- Integrated advanced Supabase features, such as row-level security and automated backups, to maintain data integrity and availability. The solution provided a scalable cost-effective database system that scaled with the club's growing data needs, ensuring seamless user engagement.

PERSONAL PROJECTS

Caption Generator

AWS, Next.js

- Developed a Next.js application facilitating user-generated video uploads, integrating AWS S3 for efficient media storage to enhance system performance and handling of high-resolution video content leading to **50%** reduction in server load and a **20%** increase in upload speed.
- Engineered a dynamic captioning feature utilizing AWS Transcribe Services enabling users to personalize captions by adjusting fonts, colors, and text positioning. The system's architecture ensured a seamless process of video-to-text conversion, with an additional layer of stylization.

SmartPlate

OpenAI, Next.js

- Developed an innovative Next.js application that personalizes meal planning, incorporating user dietary and budget preferences. Utilized the OpenAI GPT API to generate customized meal suggestions complete with ingredients, cost estimates, and serving sizes.
- Architected a seamless integration with a JSON backend, enabling real-time data handling and storage of user preferences, which enhanced the application's responsiveness and personalized user experience. This integration led to an optimized meal prep and shopping process.

NumerAI Model

Python, LightGBM

- Engineered and refined a high-performance machine learning model for the NumerAI hedge fund, leveraging the LightGBM framework to predict stock market movements with precision. Expertly parsed and processed Numerai's datasets, resulting in a sophisticated predictive model.
- Successfully deployed the model in live trading environments, judiciously managing real cryptocurrency (NMR) investments. Demonstrated outstanding financial acumen and technical expertise, achieving **30%** investment return over a 3-month period.
- Ranked within the top 10 participants in the global Numerai tournament, distinguishing the model for its exceptional accuracy.

SKILLS

- **Programming Languages:** Python, Java, SQL, GraphQL, JavaScript, Typescript, C/C++, AWS
- **Tools:** React, Node.js, Next.js, Framer Motion, Tailwind, Git, Pandas, NumPy, Matplotlib

ADDITIONAL INFORMATION

- **Interests:** Hockey, football, piano (level 10), skiing, running, photoshop/video editing, swimming (medley)