

Eric Xie

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TECHNICAL SKILLS

Languages: Python, Javascript, Typescript, C/C++, SQL

Frameworks/Libraries: React.js, Flask, Redux, Node.js, Express.js, Next.js, Pandas, Tailwind CSS

Developer Tools: PostgreSQL, SQLite, AWS, MongoDB, Firebase, Docker, Jupyter Notebook, Git

EDUCATION

University of Waterloo

Sep. 2022 – Apr. 2027

Bachelor's of Computer Engineering, Co-op

Waterloo, ON

- Courses: Data Structures and Algorithms, Object-Oriented Programming, Linear Algebra, Discrete Math

EXPERIENCE

BMO Financial Group

Sep. 2023 – Present

Software Engineer Intern

Toronto, ON

- Developed and deployed REST APIs for an OCR-based tagging platform using **Flask**, **React**, and **SQLite**, achieving a **30%** reduction in integration/training time of machine learning models
- Implemented AES encryption in **PostgreSQL** database using **Python** and **AWS KMS** for sensitive banking/personal data, ensuring **100%** security compliance and mitigating potential data breaches by **70%**
- Integrated client-side caching using **Redux** to manage component states and AWS Textract OCR retrieval results, reducing server load by **10%** and improving page load times by **25%**

Brookfield Annuity

Jan. 2023 – Apr. 2023

Software Developer Intern

Toronto, ON

- Developed internal pricing tools by leveraging **Python**, **Pandas**, and **NumPy** to streamline bid preparation, resulting in a **60%** reduction in turnaround times for the contract bidding process
- Owned the development of a mail merge application to populate required bid documents and slide decks, automating a **30+ minute** manual process to provision contract deal requirements
- Designed and built an intuitive bid preparation dashboard using Tkinter to replace legacy CLI-based process; adopted by **45%** of the organization and obtained a **98%** task success rate

PROJECTS

OptiWealth 📄 | *React.js, Typescript, PostgreSQL, Flask, Python, Firebase*

Sep. 2023 – Present

- Developed an all-in-one investment management platform, enabling users to monitor, analyze, and rebalance their portfolios to align with their asset allocation target based on risk tolerance/financial goals
- Architected a financial REST API within **Flask** to facilitate communication between PostgreSQL database and the client-server to deliver retrieval and update operations for user portfolio data
- Designed a seamless portfolio upload process using **Tesseract OCR** and Pandas to extract asset data from financial statements in either CSV or image formats

CollaboraCart 📄 | *React.js, Flask, Tailwind CSS, SQLite*

Oct. 2023

- Designed and built a platform that matches small businesses together to harness collective bulk buying power and achieve optimized per-unit costs on supplies
- Engineered a matching algorithm using **Python** designed to find the best matches among small businesses based on item needs, industry, and location, ensuring optimal cost benefits for every paired transaction
- Developed a comprehensive backend system using Flask and **SQLite** that streamlines registrations, order requests, and executes matching operations, ensuring a fluid user experience and efficient database management

PomoDuo 📄 | *React.js, Node.js, Express.js, Firebase, Socket.IO*

Apr. 2023

- Built a group study room platform using React.js and **Firebase** that allows users to generate/share room codes to join a Pomodoro timer study session
- Integrated bidirectional real-time communication using **Socket.IO** to enable concurrent timer functionality, resulting in **30%** increase in session completion rates
- Implemented server-side API endpoints by optimizing **Node.js** and **Express.js** to handle user/room validation