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, Pandas, Tailwind CSS
Developer Tools: PostgreSQL, AWS, MongoDB, Firebase, SQLite, 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 – Dec. 2023
Software Engineer Intern   *Toronto, ON*
- Developed **Flask** RESTful APIs and reusable **React** components with **Redux** for a OCR-based document tagging platform to streamline training data preparation, reducing ML model integration time by **25%**
- Led the design and implementation of an automated **PostgreSQL** database cleanup system, employing **AWS S3** event listeners and **SQS** to invoke a serverless **Lambda** function, handling **100k+** deletion queries daily
- Implemented AES encryption in database using **Python** and **AWS KMS** for sensitive personal information, achieving **100%** compliance with internal data protection laws and reducing security vulnerabilities

Brookfield Annuity   Jan. 2023 – Apr. 2023
Software Developer Intern   *Toronto, ON*
- Built internal pricing tools by leveraging **Python**, **Pandas**, and **NumPy** to streamline bid preparation, resulting in a **60%** reduction in turnaround times for contract bidding process
- Owned the development of a mail merge application to populate required bid documents and slide decks, automating a **1+ hour** manual process to provision contract deal requirements
- Enhanced and overhauled an intuitive bid preparation dashboard using Tkinter to replace legacy CLI-based process; adopted by **45%** of the organization and obtained a **99%** task success rate

Projects

OptiWealth ⧉ | *React.js, Typescript, PostgreSQL, Flask, Python, Firebase*   Sep. 2023 – Dec. 2023
- Developed an all-in-one investment management platform, enabling users to monitor, analyze, and rebalance their portfolios to maintain their asset allocation targets based on risk tolerance/financial goals
- Engineered a portfolio rebalancing algorithm in **Python** that leverages live market data from YFinance API to align with model portfolios and determine the optimal buy/sell amount of user assets
- Designed a seamless portfolio upload workflow 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
- Built 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
- Created 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 a **30%** increase in session completion rates
- Implemented server-side API endpoints by optimizing **Node.js** and **Express.js** to handle user/room validation