Edward Zhuang

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Education

McMaster University *September 2019 - April 2024*
B.Eng. in Software Engineering (Co-op) *Hamilton, ON*

- **GPA**: 3.6/4.0, **Awards**: McMaster Honour Award, Dean's Honour List, Peter Milne Academic Grant
- **Relevant courses**: Data Structures and Algorithms, Software Development, Large Software Design, Databases, Data Mining

Skills

Languages	Java, Python, JavaScript (ES6), HTML, CSS, SQL, MATLAB
Frameworks	Spring Boot, React, Node.js, Flask, Bootstrap, PostgreSQL, pandas, NumPy, Scikit-learn, PyTorch
Other Technologies	Git, Atlassian, AWS, Jenkins, Linux, Microsoft Excel

Experience

Software Engineer Intern *May 2022 - April 2023*
National Bank of Canada *Toronto, ON*

- Developed business logic and performed end-to-end testing for a securities trading software using **Java** and **Spring Boot**, satisfying business requirements for **100+** new features requested and used by **50+** traders
- Introduced daily notional value tracking by constructing new **SQL** tables and using **Java** and **Spring Data JPA** to facilitate database-repository connections, revealing the impact of different trade activities on the business
- Implemented server-side infrastructure to facilitate the migration of the on-premises, monolithic application to **AWS**, adopting a microservices architecture using **Java** and **Spring Boot**, improving scalability and eliminating system downtime
- Aggregated and manipulated trade data in **SQL** for traders, allowing for pattern analysis on various trade activities
- Managed and maintained the health of **4** production and non-production **Jenkins** pipelines, fixing **40+** cases of pipeline failure

Web Developer Intern *May 2021 - September 2021*
Ontario Ministry of Education *Remote*

- Streamlined the Ontario curriculum website structure creation process by developing a **JavaScript (ES6)** script with **Node.js** and **Kentico Kontent API**, reducing execution time by **95%**
- Expanded Ontario curricula by performing structure creation and content entry in **Kentico CMS** to convert PDFs to web format

Projects

AI Landscape Art NFT Generator ↗ *June 2023*
Hackathon Project *ETHGlobal Waterloo 2023*

- Trained a diffusion AI model to generate landscape art NFTs on **Ethereum mainnet**, winning two prizes totalling **$1,000+** in value
- Developed a **Flask** web app to generate artworks, mint them into NFTs, and showcase recently minted ones on the **React** frontend, which features a login interface with authentication built upon the **Worldcoin API**

Opioid Patient Study ↗ *September 2021 - April 2022*
School Club Project *McMaster AI Society*

- Implemented a **support vector machine (SVM)** to classify potential opioid addicts from patients in the Pharmacogenetics of Opioid Substitutions Treatment Response Study (POST), in collaboration with the McMaster Faculty of Health Sciences
- Built the SVM classification model by leveraging **Scikit-learn** with a recall of **68%** and a precision of **35%**
- Developed data cleaning **Python** scripts using **pandas**, reducing a noisy and inconsistent data set of **3000+** features to a clean data set with **< 400** features, minimizing the effects of overfitting
- Presented results to the **McMaster AI Projects Expo 2022** to a panel of **30+** professionals and students

League of Legends Data Fetcher *March 2021 - April 2021*
Discord Bot *Personal Project*

- Developed a data-fetching Discord bot for League of Legends players, using **Python** and the **Riot Games API**, displaying player statistics within **2** seconds of command execution
- Deployed and hosted bot on **Heroku** for use in a **100+** member Discord server