Xinjie Ye

Edmonton, AB | 587-873-6828 | xye1@ualberta.ca

Education

University of Alberta **Edmonton, AB**

Bachelor of Science in Computer Science *Anticipated Graduation: Apr. 2025*

- GPA: 3.4/4.0
- International Student Scholarship & University of Alberta Undergraduate Scholarship
- Relevant Coursework: Software Engineering, Database Management, Algorithm and Data Structure, Formal Systems and Logic, Object Oriented Programming, Operating System, Computer Organization and Architecture.

Technical Skills

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, C#, MongoDB
Technologies: React.js, Node.js, Flask, JUnit, Pandas, NumPy, Android Studio, TensorFlow, OpenCV, Jupytor Notebook, PyTorch, Git Version Control, Perforce, Unix/Linux, Google Cloud Platform, AWS, Docker, BS4

Projects

CatchTheCode | *Java, Kotlin, Android Studio, Google Firebase, Google Cloud Platform, Git*

- Designed and Developed a **Android application** for users to scan unique QR codes and compete with other online users and leveraged the ZXing library to integrate QR code detection functionality.
- Implemented **Google Firebase** for **cloud storage**, providing secure and scalable storage options for the application.
- Utilized **Google Map API** to integrate **location-based services** into the application, enabling users to locate and track nearby codes in real-time, enhanced user experience and increased engagement.

Google Smartphone Decimeter Challenge | *Python, Jupyter notebook, Git*

- Estimated raw smartphone locations with decimeter resolution by **Global Navigation Satellite System (GNSS)** data to improve the current meter level positioning accuracy and build novel navigation methods.
- Utilized the **simdkalman** library to apply **Kalman filtering** for smoothing the latitude and longitude values.
- Provides functions to visualize the GPS traffic and collection data on a map using the **plotly** and **matplotlib** libraries.

Optiver Realized Volatility Prediction | *Python, Jupyter notebook, Git*

- Developed a **machine learning** model to predict short-term volatility for **hundreds of stocks** across different sectors.
- Conducted extensive **feature engineering** to improve the accuracy.
- Trains and evaluates **LightGBM** models and a **neural network** model using **cross-validation**.
- Achieved the root mean square percentage error as small as **0.22541**.

Pacman | *Unity, C#, Git*

- Designed and Developed a Pac-Man game that allows users to control the character to eat all dots in the maze while avoiding four ghosts with 3 difficulties.
- Implemented different pathfinding algorithms for the ghosts including **greedy search** and **A*** with various goals to set the difficulties.
- Use **Unity** to build the game board and design **Gaming UI and UX**.
- **Integrated animations** to provide smooth movement and visual feedback for game actions.

VisMind | *Python, Django, Conda, HTML, CSS, Git, MUSE*

- Designed and developed a web application to display images based on the **brain waves** of the users.
- Connected our application to **InteraXon Muse 2** then read and analyze the user's brain waves.
- Designed and developed a user-friendly web interface where students can upload or connect to collect brainwave data using **Django**, **HTML** and **CSS**.

LibraryManager | *Python, MongoDB, SQLite, Cloud Service, Git*

- Developed a library management system to help administrators easily maintain the information and the employed workers.
- Developed **cloud services** with **more than 5,000,000** entries to ensure data security, reliability, and accessibility.
- Leveraged **MongoDB** and **SQLite** databases separately to accommodate different use cases, resulting in a scalable and flexible system that could adapt to changing needs, increasing the speed of response by **90%.**
- Published plugin to library websites and reduce **67%** working time for administration.