

Mohammed Zaid Mir

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EDUCATION

University of Western Ontario

London, ON

B.Sc. (Honors) in Computer Science, Minor in AI and Game Development

April 2026

- **GPA:** 4.0/4.0 (91.3%), Dean's Honor List (2022, 2023), Western Scholarship of Distinction
- **Coursework:** Computer Architecture & Organization, Data Structures & Algorithms, Operating Systems, Discrete Mathematics, Statistics, Quantum Computing, Linear Algebra I & II, Calculus I & II

TECHNICAL SKILLS

Languages: Python, Java, C#, C, HTML/CSS, PostgreSQL/MySQL, R

Libraries: PyTorch, TensorFlow, NumPy, Pandas, Matplotlib, Seaborn, cvzone, OpenCV, Neo4j

Developer Tools: Git, Unix/Linux, Unity, Unreal Engine, LaTeX

EXPERIENCE

Banking Analytics Lab

July. 2024 – Present

Machine Learning Engineer

London, ON

- Utilized NumPy and Pandas to clean and process over 200,000 rows of financial data, increasing efficiency by 95%.
- Developed and fine-tuned deep learning scripts using PyTorch to analyze financial investment data.

Western Investment Club

Sep. 2023 – Present

Junior Data Scientist

London, ON

- Researcher for \$300k long-only student-led value investing fund, specializing in the Consumer Retail Group.
- Acquired and applied valuation techniques, including DCF analysis and comparison of financial multiples.
- Utilized SQL and Pandas to analyze complex datasets, refining our investment strategy by identifying key financial indicators and trends in consumer retail companies, thereby enabling more informed investment decisions.

University of Western Ontario

Jan 2023 – Jun 2023

Undergraduate Student Researcher

London, ON

- Conducted advanced research on Google's Page Ranking Algorithm under Dr. Asghar Gorbanpour, analyzing the algorithm's foundations in linear algebra and its implications, contributing to a published paper.
- Implemented a robust Java program to rank web pages of the Department of Mathematics website using Jsoup for efficient parsing, extraction, and manipulation, ensuring comprehensive and accurate data processing.
- Constructed and analyzed a 364x364 transition matrix to model the link structure of web pages. Applied iterative methods to compute PageRank values, achieving convergence after 66 iterations.
- Managed large-scale datasets of millions of rows, using JProfiler and VisualVM to optimize numerical algorithms, enhancing computational efficiency and accuracy by 30%.

PROJECTS

Coinbase | Flask, JSON, Postman

- A decentralized blockchain encompassing block creation, transaction management and proof of work.
- Implemented a RESTful API with Flask to enable interaction with blockchain, transaction creation, block mining.
- Integrated a consensus algorithm to ensure blockchain integrity and resolve conflicts across decentralized nodes.

SignSpeak | TensorFlow, OpenCV, cvzone, NumPy

- A real-time ASL converter that tracks and classifies hand gestures into corresponding letters.
- Developed a robust preprocessing pipeline for image data to enhance model performance and reliability.
- Trained and fine-tuned CNNs optimizing the model with transfer learning to boost gesture recognition accuracy.

SMS-Filter | Scikit-learn, Pandas, Flask, Postman

- An SMS spam detection system using Scikit-learn to accurately classify messages as 'spam' or 'ham'.
- Trained and validated models on a dataset of 5,574 SMS's achieving a high accuracy score of 98.8%.
- Created a Flask-based API for real-time spam detection, enabling seamless integration into web applications.

mittensOS | Pygame, NumPy

- A comprehensive chess engine implementing negamax search with alpha-beta pruning for advanced AI
- Engineered a robust game state management system to handle move validation, special moves, and game status.
- Implemented a depth feature allowing the engine to evaluate multiple moves ahead, enhancing decision making.