Qi (Savvy) Liu

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Education

McMaster University | Bachelor of Engineering, Software Engineering (Co-op) Graduating April 2026

- **Cumulative GPA 3.78/4,** Dean's Honor List
- **Relevant Coursework:** Object Oriented Programming, Data Structures and Algorithms, Linear Optimization, Dynamic Systems and Control, Software Testing and Requirements, Probability and Statistics, Computer Architecture

Work Experience

Software Engineering Intern | Travelers Canada | Toronto, Ontario May 2024 – August 2024

- Built ETL pipelines using Python and Pandas, extracting data from Oracle and MS SQL Server databases to automate data aggregation and validation of company-wide financial data, achieving an **80% speedup** over previous methods
- Conducted extensive end-to-end testing throughout the process to ensure consistent results between baseline manual test results and the automated pipeline, driving **discrepancy rates below 1%**
- Integrated into the daily workflow of QA teams as a **key component of the company's tooling** for data validation

Leadership

Data Analysis Team Lead | McMaster Solar Car Project September 2024 – Present

- **Leading a team of five** within a multidisciplinary project of over one-hundred engineering students, administrating databases and performing data analysis to optimize vehicle speeds, steering, and battery management in real time
- Directing meetings with data acquisition teams to stream, store, and analyze live data from vehicle DAQ systems
- Finalized migration from local databases to cloud-based Influx DB servers, **speeding up data access time by 65%**

Projects

Character Recommendation Algorithm | Active Personal Project August 2024 – Present

- Collecting data from Riot Games API using the Requests library, **storing over 50,000 records** in a SQLite database
- Creating and training ML models with Python and scikit-learn to solve a multiclass classification problem: predicting which character a player is most likely to enjoy by analyzing patterns within their game history and play style
- Experimenting with and implementing a content-based filtering approach using embeddings and TensorFlow to train deep learning networks, resulting in a **15% improvement in top-5 accuracy** compared to baseline models

English Dialect Translation Model | Hack the Valley 9 | Hackathon Winner October 2024

- Innovated an application providing accurate translations of dialects unsupported by conventional translation services
- Prepared datasets by querying Google's API to find YouTube comments under creators speaking relevant dialects, alongside public datasets provided by universities, then preprocessed the data using Python with PySpark
- Trained a seq2seq ML model on Databricks using TensorFlow, impressing judges and **winning multiple categories**

Census-Based Immigration Advisor | DeltaHacks 9 | GDSC Distinction January 2023

- Developed a tool with Python that helps prospective immigrants narrow down suitable locations in Canada
- Analyzed millions of Canadian census records with Pandas, matched city and town demographics against user preferences and profile data to implement a lightweight and accurate recommendation algorithm

Technical Skills

Languages: Python, SQL, R, Java, C, C++, MATLAB, VBA

Libraries and Frameworks: Pandas, NumPy, TensorFlow, PySpark, scikit-learn, Requests, Streamlit, Flask

Developer Tools and Practices: Linux, Git, VS Code, PowerBI, WSL, Databricks, Jira, Agile, Maven, JUnit