Markus Henze

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Education

University of Alberta | **Expected Graduation: 2027**

Bachelor of Science - Major in Computing Science, Minor in Psychology | *Edmonton, AB*

- Courses: Software Engineering, Algorithms and Data Structures, Artificial Intelligence, Machine Learning, Ethics of Data Science and AI, File and Database Management, Human Computer Interaction
- Awards: Jason Lang Scholarship

Projects

Android Event Lottery System App | *GitHub* | **Java | Android | Firebase**

- Developed a **multi-role Android application** in **Java** using **Android Studio**, supporting entrants, organizers, and administrators
- Implemented event creation, lottery draws, and participant management using **Firebase Firestore**, enabling **real-time updates** to event and participant data across the application
- Collaborated in a **6-person Agile team**, coordinating tasks and tracking progress using **GitHub Issues** and pull requests
- Practiced version control, code reviews, and merge conflict resolution using **Git**

Command Line Twitter Clone | *Academic Project* | **Python | SQLite | SQL**

- Collaborated in a team to build a **Python-based CLI** twitter-like application interacting with a local **SQLite** database using the **sqlite3** library
- Implemented features including tweet creation, replies, retweets, following, and search across tweets and users
- Applied **parameterization** for user input SQL queries to prevent **SQL injection attacks**
- Implemented keyword search, hashtag parsing, and pagination using **SQL queries** and views

PyTorch Fuel Efficiency Predictor | *GitHub* | **Python | PyTorch | Pandas**

- Built and trained a **multi-layer neural network** to predict car fuel efficiency using Canada's 2014-2024 automotive data
- Developed an end-to-end **regression pipeline** in **PyTorch**, including data preprocessing and feature engineering
- Evaluated model performance with **MSE metrics** and visualized training/validation loss over epochs

Work Experience

Sobeys | **July 2023 – Present**

Produce Clerk | *Sherwood Park, AB*

- Provided **friendly and knowledgeable customer service** by assisting customers with product selection and inquiries
- Maintained produce quality through inventory rotation, product preparation, and adherence to freshness standards
- Trusted to **independently carry out end-of-day operations**, including closing the department, completing operational logs and ensuring compliance with storage and safety procedures

Interests

Interests: Cycling, Photography, Skiing, Camping, Hiking, Fitness

Volunteering: Sleep in Heavenly Peace – Participated in community builds and bed deliveries to families in need

Technical Skills

Languages: Python, Java, C, C#, HTML5, CSS, SQL

Libraries/Frameworks: PyTorch, NumPy, Pandas, Matplotlib

Tools & Technologies: Linux, Android Studio, Firebase Firestore, Git

Concepts: Object-Oriented Programming, Data Structures & Algorithms, Agile Development