Matthew Forget | ML Engineer

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Summary

I am a computer science graduate with a strong interest in the advancement of AI. I am proficient in machine learning, pattern recognition, and artificial intelligence (topics such as neural networks, VC dimensions, and PAC models). Projects I have worked on include developing LLM based mutation testing software using the Open AI API and creating image recognition neural networks in TensorFlow using supervised learning

Education

- York University - BA in Specialized Honours Computer Science (2020 - 2024)
- **Relevant Courses Taken:** Software Design - Design and Analysis of Algorithms - Advanced Data Structures - Advanced Object Oriented Programming - Machine Learning / Pattern Recognition - Artificial Intelligence - Capstone Project (LLM Based Research) - Intro to AI and Logic Programming - Distributed Systems

Experience

Software Developer, Huddle – Oakville, ON   May 2025 – Present

- Building a mobile-first social app using React Native (frontend) and Next.js (backend) to connect users into small groups based on location, interests, and preferences
- Fine tuning a large language model to support and guide group conversations, improving engagement and moderation
- Leading development of core features including real-time matchmaking, chat flows, and personalized group creation logic
- Implemented backend logic and APIs using Next.js, managing authentication, matchmaking, and group conversation flows

Machine Learning Engineer, DAI – Mississauga, ON   Sep 2024 – Jan 2025

- Engineered a full stack platform for a LLM based dating assistant, leveraging Python, Flask, and OpenAI and fine tuning models to automate user interactions and apply user specific filters
- Developed custom prompt engineering and preference based match filtering to mimic user personality and boost conversation quality using NLP

Projects

LLM Based Mutation Tester   Visit Project

- Conducted research and development on LLM based mutation testing using GPT 3.5 as the model
- Evaluated and analyzed mutation scores, compilable rate, and similarity rate of mutations generated by both Pitest and my LLM based mutation tester, comparing results
- Developed Python scripts to automate the LLM based mutation tester
- Results indicated that GPT 3.5 turbo is not as effective at generating mutations as Pitest

Image Recognition and Natural Language Processing   Visit Project

- Built a neural network in TensorFlow to recognize hand written digits and items of clothing using MNIST datasets
- Developed a CNN in TensorFlow to classify horses and humans, using callbacks to prevent overfitting
- Implemented data augmentation and transfer learning techniques to enhance model performance and prevent overfitting in image classification tasks
- Trained an LSTM model for sentiment analysis on the IMDB movie reviews dataset

FreeReader   Visit Project

- Created FreeReader, a cross platform application using React Native Expo with AsyncStorage without server-side steup
- Reads text files from the user aloud using text to speech (TTS), with adjustable speed, volume, and starting point of the TTS
- AI available to summarize the reading and offer suggestions for new readings based on user history

Certificates

TensorFlow Developer Certificate - DeepLearning.AI	Jan 2025
Natural Language Processing in TensorFlow Certificate - DeepLearning.AI	Jan 2025
Convolutional Neural Networks in TensorFlow Certificate - DeepLearning.AI	Jan 2025

Skills

Languages: Java, Python, C, C++, C#, SQL, Javascript, TypeScript, Dart, HTML/CSS

Technologies: React Native, Flutter, ML (Sklearn, Pandas, Seaborn, TensorFlow), Computer Vision, Neural Networks, NLP - Fine Tuning, Git, Kubernetes, Go, Microservices, Cloud, AWS