Maximillian Fong

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PROFESSIONAL EXPERIENCE

Botpress, *Growth Engineer Intern* 09/2025 – 12/2025

- Enhance and expand our open-source integrations, including SharePoint, MailerLite, and Persat, with new features, improved stability, and broader capabilities.
- Run a pilot program and provide exceptional, hands-on support to a Team Plan customer to ensure successful adoption and valuable feedback.
- Improve onboarding by developing a bot-building agent that helps users create, refine, and launch their bots more easily and intuitively, leading to higher user retention.

Retail Realm, *Software Developer Intern* 05/2025 – 08/2025

- Designed and deployed an internal support automation tool using Azure Databricks and PySpark, building a scalable ETL pipeline to ingest and preprocess historical support tickets with NLP techniques.
- Implemented a Retrieval-Augmented Generation (RAG) system with a Vector Database, enabling semantic search and contextual answer extraction from resolved tickets.
- Benchmarked and deployed locally hosted LLMs using vLLM on a virtual machine, integrating OpenAI APIs to optimize performance for document-level data extraction and real-time support use cases.
- Developed and integrated an agentic chatbot using LangGraph and LangChain, leveraging the RAG system to autonomously retrieve, reason, and respond, improving support team efficiency and reducing average response time.

PROJECTS

Modular Study of DQN Enhancements in Practice, 04/2025

Deep Q Learning Model - Pytorch, Numpy, Gymnasium, Matplotlib

- Reimplemented Rainbow DQN from scratch in Python/PyTorch, integrating six core enhancements: Double Q-Learning, Prioritized Experience Replay, Dueling Networks, Noisy Networks, n-step returns and distributional C51
- Achieved 60 % convergence and 153.9 avg test reward on Seaquest (full Rainbow) vs. vanilla DQN, with ablations revealing Noisy Networks & PER as most critical for fast, stable learning

Turing Poker Bot, *Poker Agent - Python* 02/2025

- Implemented real-time expectation calculations, factoring in the pot size, player ranges, and win probabilities to optimize decision-making.
- Utilized a moving average as a reinforcement learning concept, enabling the bot to adapt its strategy based on evolving opponent behaviors.
- Qualified for cash prizes in two rounds, demonstrating strong performance in a competitive setting.

Digit Recognition with Convolutional Neural Network (CNN), 11/2023

Python, Numpy, Pytorch, Pandas

- Achieved 86%+ accuracy in recognizing handwritten digits
- Implemented techniques like batch normalization, data augmentation, and stochastic gradient descent to improve model performance and reduce overfitting

EDUCATION

McGill University, *BSc Honors Computer Science / Minor Statistics* 2022 – 2026

Relevant Coursework: Artificial Intelligence, Machine Learning, Reinforcement Learning, Time Series Analysis, Software Design, Applied Regression, Cryptography and Data Security, Databases

SKILLS

Programming Languages / Tools (Python, Java, JavaScript, TypeScript, C, C++, R, HTML/CSS,Git, SQL, MATLAB)

Full-Stack / Mobile Dev (ReactJS, Next.js, TailwindCSS, ReactNative, Django Rest API, MUI)

Data-Science / ML (Pytorch, Numpy, Pandas, Scikit-learn, Matplotlib, PySpark, HuggingFace transformers)