Maximillian Fong

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EDUCATION

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

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

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
- Designed a "CombinedAgent" framework with CLI flags to toggle individual components and automate systematic ablation studies
- 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.

Better CV, *Full-Stack Web Application - PostgreSQL, NextJS, ReactJS,*   01/2025
TailwindCSS, GeminiAPI 🔗
- User Input Management: Allows users to enter details about projects, past employment, skills, and extracurriculars
- AI-Powered CV Generation: Utilized Gemini API to create optimized CVs based on job requirements
- Job Board Integration: Implemented SERP API for displaying relevant job postings

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
- Utilized Pandas for data preprocessing and handling

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)

PROFESSIONAL EXPERIENCE

Brit & Chips, *Waiter*   03/2022 – 10/2023
- Provided excellent customer service in a fast-paced restaurant environment, ensuring guest satisfaction and repeat business
- Collaborated with team members to maintain a clean, organized, and efficient dining area
- Handled customer inquiries and resolved issues promptly, contributing to a positive dining experience, managing over $2000 gross sales alone

Metro Inc., *Bagger/Cashier*   03/2019 – 03/2022
- Collaborated with team members to ensure quick service during peak hours, enhancing customer satisfaction.
- Managed high-volume customer transactions, maintaining accuracy and speed during busy periods.