Dennis Fong

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EDUCATION

McMaster University — Hamilton, ON
Bachelor of Engineering (Software Engineering, 3.7 CGPA) — *Sep. 2020 – Present*

Courses: Data Structures (Java), Algorithms and Complexity, Software Design (Java, Python), Concurrent Programming (Go, Python), Databases (SQL)

TECHNICAL SKILLS

Languages: Python, JavaScript, HTML/CSS, Java, SQL, C/C++, Go, MATLAB
Frameworks: React, Node.js, Flask, ExpressJS, Material-UI, Pandas, NumPy, TensorFlow, PyTorch
Developer Tools: Git, Docker, MongoDB, MySQL, VS Code, PyTest

EXPERIENCE

Undergraduate Research Assistant — May. 2023 – Aug. 2023
McMaster Univeristy — *Hamilton, ON*

- Utilized constraints solving approaches to optimize dependency installations on supercomputers
- Explored the usage of satisfiability as a means of advancing package management of a supercomputer

Quantitative Developer - DeGroote Finance and Investment Council — Oct. 2022 – Present
McMaster University — *Hamilton, ON*

- Created natural language processing model with deep learning to analyze sentiment of financial headlines
- Developed code for mean reversion trading strategy using a statistical model of related equity pairs
- Tested several algorithms on large historical data sets to verify validity of developed algorithms

PROJECTS

Track.it | *JavaScript, SQL/MySQL, React, Express.js, Node.js*

- Built a full-stack web application that tracks the daily/total change of a portfolio created by the user
- Implemented front-end design with **React** to display significant portfolio data in a table using **MaterialUI**
- Used **Express.js** to run back-end that fetches and sends data between the front-end and the database
- Created a database using **MySQL** to securely add and store asset data from front-end to the database

Delight | *React, Node.js, JavaScript, HTML/CSS*

- Built front-end web app with **React** to calculate maximum profits and losses from options strategies
- Designed front-end with **Figma** and implemented design using **React** to display the profits and losses
- Leveraged **Yahoo Finance API** to support information retrieval for options data of various assets

Discord.GPT Discord Bot | *Javascript, NodeJS, OpenAI, Alpaca*

- Built an interactive Discord bot with Discord.py that implements the ChatGPT language model
- Interfaced with Alpaca API to retrieve and send provide market data of stock inputted by user
- Implemented various commands that take in user input to process and provide functionality

London Tube Pathfinding | *Python, PyTest*

- Experimented with different pathfinding algorithms on the London Tube transit system
- Utilized **dynamic programming** for algorithm to solve a complex computational problem
- Applied **object oriented programming** and **SOLID principles** to create maintainable code