Daniel Tsiang

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EDUCATION

Harvard University **Remote**

HarvardX CS50ai & CS50x: Jan 2021 – Dec 2021

Computer Science with Artificial Intelligence using Python (certificate)

- Created AI programs to play Minesweeper, Tic-Tac-Toe and Nim games optimally.
- Trained Machine Learning models to recognise traffic signs and predict online purchases completion.
- Wrote Natural Language Processing programs to answer questions and parse sentences.
- Coded AI programs to generate crossword puzzles, estimate genetic inheritance likelihood, rank webpages by importance, solve logic puzzles and determine degrees of separation.
- Created scripts in C to encrypt text, recover data after deletion & transform images. I also simulated elections, genetic inheritance and implemented a spell checker using a hash table.

Imperial College London **London**

Master of Engineering in Chemical with Nuclear Engineering (First-Class) Oct 2014 – Jun 2018

- Led a team of 4 to design a reactor model using MATLAB and to mitigate upstream disturbances.

WORK EXPERIENCE

Starling Bank **London**

Software Engineer Aug 2021 – Present

- Developed and tested the backend for Python apps which serve image recognition Machine Learning (ML) models.
- Deployed ML models into production by running Python apps in Docker containers and orchestrating them with Kubernetes. I then linked these to the backend Java platform through REST APIs.
- Optimised Kubernetes resource allocation and monitored pods to achieve efficient performance of containers serving ML models.

PROJECTS

Traffic Sign Classifier *(demo)* Jan 2022

- Created a single-page web app serving a machine learning model I trained which classifies traffic signs.
- Orchestrated Flask, NGINX and TensorFlow Serving Docker containers using Docker Compose.

Stock Simulator *(demo)* Apr 2021

- Designed and built a RESTful web app using Python with Flask's MVC framework, connected to a SQL database and served by Gunicorn.
- The web app simulates managing portfolios of stocks, using real stocks' prices by querying an API.
- AJAX calls are made from JavaScript to update data displays and validate data in real time.

SKILLS

- **Programming Languages:** Python, Java, JavaScript (plus CSS & HTML), SQL, C
- **Programming Frameworks / Tools:** Docker, Kubernetes, Flask, TensorFlow, Git
- **Spoken Languages:** English (Native), Cantonese (Proficient), Mandarin (Conversational)