



Yat Shun LEE, Jasper

Eligible holder of Open Work Permit

Available immediately

A highly self-motivated, skilled individual who has been working for more than two years in AI research. I enjoy working with others to achieve a common goal and to a very high standard.

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EDUCATION

Master of Science in Data Science

Hong Kong

City University of Hong Kong

2023

- CGPA: 3.83 (Distinction)
- Graduation Representative of Class 2023
- Student Member for the Programme Committee of Master of Science in Data Science

Bachelor of Engineering (Honors) in Mechanical Engineering

Hong Kong

The Hong Kong Polytechnic University

2019

- Award: Faculty of Engineering Academic Scholarship for Outstanding HKDSE Admittees
- Executive Committee, the Mechanical Engineering Students' Society (MESS)

WORKING EXPERIENCE

AI Researcher

Hong Kong

The Aviation Services Research Centre, the Hong Kong Polytechnic University 02/2021 – 06/2023

- Led the development of computer vision software utilizing deep learning libraries, PyTorch and Tensorflow, to create a computer vision product for industrial maintenance and robotic automation process.
- Researched the potential of utilizing state-of-the-art reinforcement learning algorithms to minimize the blade imbalancing problem.
- Conducted statistical analysis for Boeing to reduce machining distortion and improve machining quality.
- Collaborated with cross-functional teams at a multinational corporation to develop, test, and deploy a software application.

PERSONAL PROJECTS

Quantitative Risk Analysis Dashboard

03/2023 - 04/2023

- Developed custom Python libraries to estimate Value-at-Risk (VaR) using CAViaR by Engle and Manganelli 2004 and to backtest VaR estimates using statistical tests from scratch.
- Constructed a user-friendly dashboard that can easily visualize the VaR forecast and the past estimates.
- Demonstrated strong analytical and problem-solving skills by applying advanced statistical techniques to estimate VaR and conducting extensive backtesting of VaR estimates using statistical tests.

Predicting Stock Market Return

01/2022 - 05/2022

- Developed and implemented a market timing strategy that leveraged a broad set of predictors to predict monthly market returns and adjust positions in the SPY ETF accordingly, resulting in an annualized Sharpe ratio of 0.66 and outperformance of a buy-and-hold strategy.
- Conducted rigorous backtesting of forecasting models, and demonstrated the economic significance of a model with low but positive R-squared value by converting it into a profitable trading strategy.

Building a Gaming AI by Deep Q Learning

03/2022 - 04/2022

- Trained a gaming AI to play QWOP which was awarded the best presentation performance in class.
- Contributed mainly on building the environment and developing the deep Q learning algorithms by using libraries including OpenAI Gym, PyTorch and Stable Baselines3

Movie Library Website with Recommendation Engine

10/2021 - 11/2021

- Developed a recommendation engine using collaborative filtering and machine learning to personalize user movie recommendations based on their rating history.
- Built a web scraper to collect movie data from IMDB website and integrated it into the website to provide users with relevant and up-to-date information.
- Optimized the database design process by normalizing the schema to improve query performance and reduce redundancy, and provided guidance to team members in planning and executing the project from scratch.

Car Park Availability Analysis & Predictive Modelling

06/2021 - 07/2021

- Utilized open data to predict the availability of adjacent parking spots across all car parks in Hong Kong
- Placed among top 10% in the DTT Programme organized by HKSTP Innoacademy

CERTIFICATES

University Research Facility in Big Data Analysis (UBDA) Training Course	06/2022
HKSTP InnoAcademy's DeepTech Talents Training (DTT) Programme	06/2021
CS50x (Harvard University) Certificate	12/2020

TECHNICAL SKILLS

- Data Manipulation (Python): *Numpy, Pandas*
- Statistics and Optimization (Python): *Scipy, Statsmodels, CVXPY*
- Computer Vision (Python): *OpenCV, Scikit-Image, Image Augmentation, PaddleOCR*
- Machine Learning and Deep Learning (Python): *Scikit-Learn, Tensorflow, PyTorch*
- Database Server and ETL Process (SQL and Python): *SQL Server, MongoDB, GridFS*
- Data Visualization and Analysis (Python): *Matplotlib, Seaborn, Streamlit, Plotly*
- Distributed Computing Framework (Python): *Apache Spark*
- Cloud Computing Services: *AWS, Azure, IBM Watson Studio*
- Web Development and API: *HTML, CSS, Javascript, Python: Django, Flask, Websocket*
- Others: *Windows OS, Linux OS, Docker, Bloomberg Terminal, Tableau, Matlab*

LANGUAGES

Cantonese	●	●	●	●	●
<i>Native</i>					
English	●	●	●	●	○
<i>Full professional proficiency</i>					
Mandarin	●	●	●	○	○
<i>Professional working proficiency</i>					

INTERESTS

- Writing Tech-related blogs on Medium.
- Contributing to open source libraries and resources.
- Basketball, Thai-boxing, dancing, and water sports.