

Caroline (Jialu) LI

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Gender: Female | Address: The Chinese University of Hong Kong, Chung Chi College

EDUCATION

The Chinese University of Hong Kong

September, 2017 – 2023, Hong Kong

- Double degree: B.Sc. in Computer Science & B.A. in Integrated Business Administration
- cGPA: 3.555/4 (Head's list, the Second Upper Degree), mGPA: 3.5/4
- Courses: Algorithmic Trading Strategies (A-), Graduation Projects(A), Design and Analysis of Algorithms(A), Fundamentals of Artificial Intelligence(A), Business Information Systems(A)

Peking University

GPA:4.0/4.0,

Summer, 2018, Beijing, China

SCHOLARSHIP

Admission Scholarship 2017-21, Talent Development Scholarship 2018/19, Kunkle & Pommerenke Scholarship 2020-22, Chung Chi Departmental Prize 2022, Philip Shen Scholarship 2022

SKILLS AND LANGUAGE

Programming language: Python, SQL, C, Java, R, JavaScript.

Proficient

Markup language: HTML (CSS), LaTeX, Markdown.

Proficient

Framework: ML (Pytorch, Tensorflow, scikit-learn), Web (Flask, Vue2), Web scraping (Scrapy, selenium).

Proficient

Packages: Data analysis (Pandas, Numpy, Scipy), Visualization (Matplotlib, Seaborn), Web (Requests, bs4).

Proficient

Operating system: Linux

Proficient

Software: Git, Anaconda, Virtual Box, Photoshop, Premier Pro, Excel, PowerPoint, Word

Proficient

Languages: Mandarin (Native), English (Fluent), Cantonese (Conversational)

INTERNSHIP

Uranus Quantitative Investment Research Lab

Sichuan, China

Data Engineer Intern, Leader of Clearing & Settlement Department

May 2022 - December 2022

- Designed and developed the clearing system for a HFT fund, main functions include calculating per-minute PNL, analyzing the portfolio risk exposure and daily NAV with 0.001 accuracy based on fees and rebates of every trade.
- Designed and developed a web application with Vue2 and Flask web framework for visualizing fund performance and integrated the application with trading system.
- Built database clustering system with open-source Arctic database and Kafka for high-performance database access (>3 million reads per second, 1 million deleting per second).
- Led post-trading analysis team with 12 team members.

The Chinese University of Hong Kong Hong Kong

Hong Kong

Research Assistant | Department of Decision Making and Managerial

April 2021 – September 2021

- Designed and developed a high-performance scraping application with Scrapy framework to obtain relevant data for empirical user behavior and social networking analysis.
- Redesigned system architecture for 5 times improved data access rate through software optimization.

China Galaxy Securities Company Limited

Sichuan, China

Investment Consultant

April 2019 - July 2019

- Formulated investment suggestions for individual investors based on their risk preference and portfolio metrics.

Industrial and Commercial Bank of China

Sichuan, China

Business Analyst

July 2018 - August 2018

- Designed an application to facilitate the assessment of debtor by consolidating debtor information.

- Composed daily market commentaries, preparation and presentation weekly market overview report.

The Chinese University of Hong Kong

Hong Kong

Student Helper | Department of Finance

September 2021 – April 2022

- Assisted CUHK Business School to design and construct data analytics courses using Python programming language.
- Assisted a professor in curriculum design of 20 modules, lesson planning, and teaching delivery, ensuring students gained a thorough understanding of data analytics principles and practices.

The Chinese University of Hong Kong

Hong Kong

Research Assistant | Department of Biomedical Engineering

April 2020 – September 2020

- Contributed to the development of a brain-computer interface system for stroke rehabilitation, utilizing neuro-feedback techniques to improve patients' outcomes.
- Designed and implemented a scoring system using the Dynamic Time Warping (DTW) algorithm to accurately measure differences between patients' actions and target actions.
- Enhanced the front-end of an augmented reality (AR) software application to improve usability for stroke patients.

PROJECTS

Forecasting Bitcoin Price Trends from the Order Books using SVM and LSTM

Hong Kong

Graduation Project (Grade A) | Supervisor: Prof. Yufei TAO (ACM Fellow)

September 2021 – April 2022

- Developed a high-frequency trading model for bitcoin price trend prediction, utilizing multi-class Support Vector Machine (SVM) and Long Short-term Memory (LSTM) models on level-2 limit order books.
- Achieved a 55% prediction accuracy rate through the training of 20 million historical data samples.
- Constructed a trading strategy based on the prediction results and implemented a trading system with a front-end user interface.

Constructing Cointegration based Statistical Arbitrage Strategy on Cryptos Futures

Hong Kong

Capstone Project of Financial Engineering (Grade A-) | Supervisor: Keith Law

September 2021 – April 2022

- Implemented a statistical arbitrage strategy utilizing crypto futures to exploit price inefficiencies between mean-reverting portfolios consisting of two or more components.
- Conducted Engle-Granger tests to identify cointegrated pairs and Johansen tests to identify cointegrated portfolios containing three or more tickers.
- Back-tested the strategy, producing impressive results with an accumulated return of 301.2%, a Sharpe ratio of 2.957.

PUBLICATIONS

Adaptive Layout Decomposition with Graph Embedding Neural Networks

Hong Kong

2020 57th ACM/IEEE Design Automation Conference (DAC)

October 2019 – January 2020

- Contributed to the selection of optimal multiple patterning lithography decompositions (MPLD) by testing various models and utilizing graph embedding neural networks.

COMPETITIONS

Fintech Olympiad 2022

Hong Kong

Best Cross-Border Fintech Solution Prize (5000 hkd)

October 2021 – May 2022

- Proposed our solution "CVerify", aiming at increasing the efficiency and accuracy during recruiting using an enterprise-based permissioned blockchain information system under the Hyperledger fabric framework.
- Produced a white paper, pitch deck, pitch presentation video, and elevator pitch video.

EXTRACURRICULAR

President of Mainland Photography Association 2018/19, Vice president of Chung Chi Mainland Student Association 2018/19, Big group leader of the CUHK Orientation Camp 2019, Student ambassador of CUHK 2017/18