

Welvin Bun

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EDUCATION

The University of Hong Kong

GPA: 3.94/4.3

Computer Science (First Class Honours)

Sept. 2018 - May 2022

- **Awards:** HKU Full Tuition Scholarship, Chung Chow Han Lan Memorial Scholarship 2020, VTech Scholarship 2021, HKMA-ICT Scholarship 2022, HKU Engineering Dean's Honours List 2019, 2021, 2022.

WORK EXPERIENCES

Morgan Stanley

August 2022 - Present

Software Engineering Associate, Trading Risk Controls

Hong Kong

- **Working on an ultra-low latency trading engine for equity swaps products in Asia emerging markets.** Implemented various risk controls components based on requirements from regulators and risk managers.
C++, Python, Linux
- **Designed and built an order slicing and capping algorithm** on top of certain controls logics to prevent outright client rejection and promote product's commerciality.
- **Implemented a new matching algorithm used by centralized risk controls system called Global Limits Manager (GLM)**, improving latency and enabling intraday updates, allowing for more clients onboarding.
- The project is a new initiative within the firm's equity electronic trading space, encapsulating client connectivity, inventory optimization, controls, and exchange connectivity in a nimble system just one hop before exchanges.

y-intercept

June - August 2022

Quantitative Developer Intern

Hong Kong

- **Built a centralized reporting system** that includes post-trade analysis reports such as execution slippage, trade reconciliation, and strategy risk monitor. Removed 2 daily manual man hours. *Python, Dash*
- **Built an end to end ETL pipeline for crypto market data used by quant researchers and traders.** Standardized dataframe format that includes bar data, funding rate, and borrowing rate across multiple exchanges (FTX, Binance, OKEX). *Jupyter Notebook, Data Science*

Morgan Stanley

June - August 2021

Summer Analyst, Trading Risk Controls

Hong Kong

- **Built a machine learning recommendation platform** for MSET traders to release/reject medium-touch orders from hedge-fund clients, covering multiple flows such as agency, swaps principal, etc. *Python, TypeScript, React*
- **Built an automated e2e machine learning pipeline** that includes log data collection, cleaning, exploratory data analysis, model design, validation, and testing. *Jupyter Notebook, Data Science, Linux*
- **Won the APAC regional intern coding competition** by building a self-playing Ultimate Tic-Tac-Toe AI bot on *C++* using minimax algorithm with alpha-beta pruning and state caching.

Société Générale

June - August 2020

Data Science Intern

Hong Kong

- **Reduced daily time spent on market news data analysis by 90%** by building a full-stack application for risk managers that generates market summaries, and sentiments using NLP. *Python, TypeScript, React*
- **Built a machine learning application that captures anomolous patterns in time-series market risks data**, used by risk managers for visualization and alerting.

OTHER EXPERIENCES

- **Research Assistant, HKU Computer Vision Lab** Worked with Dr. Kenneth Wong on a *C++* desktop application which performs early diagnosis of spine deformity in children using Kinect sensor and deep learning models. Used by medical partners in Hong Kong.
- **Teaching Assistant, COMP 3314 Machine Learning** Led fortnightly tutorial discussions, developed problem sets, marked assignments and exams of approx. 150 students. In affiliation with Dr. Lingpeng Kong.
- **Trashtank** Worked with Clearbot on a computer vision-driven waste management system for a client in Hong Kong.

TECHNICAL SKILLS

- **Programming Languages** C++, Python, C, JavaScript, Typescript, Java, Haskell, SQL
- **Dev frameworks** GTest, Qt, React, NodeJS, MongoDB, JUnit, Spring Boot, Express, GraphQL, Docker
- **Machine Learning** Tensorflow, Keras, PyTorch, Numpy, Pandas, scikit-learn