

Gaoyuan WU

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EDUCATION

The Chinese University of Hong Kong (CUHK)

Hong Kong

BSc in Computer Science

Expected Graduation: June 2028

- Cumulative GPA: **3.81 / 4.0**; CUHK CSE Bronze Award for Outstanding Academic Performance (**Top 6 in cohort**).
- Honors: Soong Ching Ling Zhiyuan Scholarship (RMB 320,000); Dean's List (2024-25, 2025-26).
- Relevant Coursework: Linear Algebra, Calculus, Statistics, Financial Engineering, Data Structures.

WORK EXPERIENCE

Berkeley Brothers Investment | *Quantitative Proprietary Trading*

Shanghai, China

Quantitative Research Intern

Jun 2026 - Aug 2026

- Developed an **LLM-driven alpha-mining workflow (Loop Engineering)** for intraday equity research, connecting hypothesis generation, executable factor construction, statistical evaluation, and feedback-guided refinement.
- Built a Polars/Parquet pipeline for **3-second Beijing Stock Exchange order-book data** and a **factor-expression DSL** supporting LLM generation of ~50,000 candidate expressions per day.
- Combined embedding-based hypothesis filtering and signal-level deduplication with IC/ICIR, partial IC on OLS residuals controlling for mid-price movements, and tail-performance metrics; retained ~200 candidate signals and ranked them by Pareto dominance.
- Trained **LightGBM on 171 preselected factors**, achieving cross-sectional/time-series ICs of 0.07/0.05 and an **OOS annualized Sharpe ratio of 3.78, net of transaction costs (Jul-Dec 2025)** in an intraday trading backtest with fixed base holdings reset daily; daily returns were measured as P&L relative to base-portfolio capital.

Multimedia Laboratory (MMLab), CUHK

Hong Kong

Undergraduate Research Intern

May 2026 - Present

- Investigating **search optimization in self-evolving agents** under the supervision of Prof. Xiangyu Yue.

TECHNICAL PROJECTS

Signal-Driven Trading Bot (Roostoo Simulation) | *Python*

Competition Repo

- Led architecture and core development of a **signal-driven crypto trading bot** spanning factor computation, trade decisions, risk checks, and execution; established **230+ automated tests** and GitHub Actions CI.
- Combined **1-minute RSI, momentum, and EMA signals** with a volatility penalty; applied **15-minute EMA and hourly momentum filters** to suppress long signals in bearish conditions and modestly amplify them in bullish conditions.
- Trained **PyTorch LSTM models** for crypto signal generation with **walk-forward evaluation**; exported models to ONNX for inference.
- Required **two consecutive signals above the entry threshold** before buying; selected limit or market orders by signal strength and tracked pending orders through fills, cancellations, and timeouts.
- Implemented Half-Kelly sizing, ATR-based and trailing stops, portfolio/per-symbol exposure caps (50%/15% of NAV), and a **5% daily drawdown circuit breaker**.

COMPETITIONS & ACTIVITIES

- **Citadel APAC Terminal**: Placed **8th in APAC** in an algorithmic strategy game involving resource allocation, attack/defense optimization, and opponent modeling.
- **IMC Prosperity 4** (Apr 2026): Finished 530th globally in an algorithmic trading competition featuring market making, options, and arbitrage rounds.
- **Goldman Sachs APAC Engineering Academy**: Invited to participate.

TECHNICAL SKILLS & LANGUAGES

Quant & ML: Statistical Modeling, Factor Models, Market Microstructure, IC/ICIR Analysis, LightGBM, Deep Learning (PyTorch, LSTM), Backtesting.

Programming & Tools: Python (NumPy, Polars, PyTorch), C, Java, Bash; Git, Docker.

Languages: Mandarin, English (TOEFL 108), Cantonese.