

Zihan Wu

📍 PhD Candidate, Electrical Engineering, City University of Hong Kong

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SUMMARY

PhD candidate in Electrical Engineering, expected to graduate in Aug 2025, with a strong foundation in mathematical modeling, statistical analysis, and quantitative research. Experienced in building trading models, reinforcement learning algorithms, and high-performance systems. Solid background in probability, machine learning, and optimization, with published research in distributed systems and model efficiency. Proven ability to translate complex mathematical ideas into production code, with applied experience in quantitative finance and market modeling.

EDUCATION

City University of Hong Kong

Ph.D. in Electrical Engineering

Hong Kong SAR, China

2020 – 2025 (Expected)

University of Science and Technology of China

B.Sc. in Physics and Mathematics and Applied Mathematics, School of the Gifted Young

Hefei, China

2015 – 2020

EXPERIENCE

Huawei Technologies, Research Intern

Developing LLM optimization techniques for enterprise AI with focus on performance efficiency

Hong Kong

Present

PROJECTS

Rust, Python, PPO, Streamlit, Binance API

BTC Trader: Real-Time Crypto Trading System (Independent)

2023 – 2025

- Developed mathematical models for cryptocurrency price prediction using reinforcement learning and statistical analysis
- Implemented and backtested quantitative trading strategies achieving 4.08% return with Sharpe ratio 1.42
- Built real-time signal generation system processing market microstructure data with sub-millisecond latency
- Created comprehensive backtesting framework for strategy validation and risk assessment

C++, Distributed Systems, Performance Engineering

X-Shard: Distributed Transaction Engine

2023 – 2024

- Developed mathematical models for distributed consensus achieving 37% latency reduction via algorithmic optimization
- Applied statistical techniques and predictive modeling to optimize system performance in high-frequency environments
- Published: IEEE Trans. on Parallel and Distributed Systems, 2024

C++, Rust (FFI), MPI, Optimization

High-Performance Co-Clustering System

2020 – Present

- Developed novel statistical clustering algorithms for large-scale data analysis on 800K+ document corpus
- Implemented high-performance computational models reducing 83% runtime through algorithmic optimization
- Published in IEEE SMC 2024 and IEEE TIM

C++, PyTorch, CUDA

LMEraser: Fast Transformer Optimization

2023 – Present

- Developed mathematical frameworks for transformer model optimization using statistical learning theory
- Applied advanced optimization techniques to 86M+ parameter models achieving 100x performance improvement
- Conducted rigorous statistical analysis and validation; research accepted at top-tier venue (AISTATS 2025)

SKILLS

Mathematical & Statistical: Probability Theory, Statistical Analysis, Time-Series Analysis, Machine Learning, Optimization

Programming Languages: Python (NumPy, Pandas, Scikit-learn), C++ (Low-latency), R, MATLAB, Rust

Quantitative Research: Trading Model Development, Backtesting, Signal Generation, Risk Management, Reinforcement Learning (PPO), Statistical Arbitrage

Data & Systems: Large Data Processing, Distributed Computing, Real-time Analytics, HPC (MPI, CUDA), Financial APIs

AWARDS

HK PhD Fellowship (Top 5% acceptance)

2020–2024

National Encouragement Scholarship (Top 2%)

2017–2018

Patent: Physical Activity Assessment System: HK30081186

2023