

Zihan Wu

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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

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| 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 & Applied Mathematics | Hefei, China 2015 – 2020 |

EXPERIENCE

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| Huawei Technologies, Research Intern | Hong Kong |
| Developing LLM optimization techniques for enterprise AI with focus on performance efficiency | Present |

PROJECTS

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| Rust, Python, PPO, Streamlit, Binance API | BTC Trader: Real-Time Crypto Trading System (Independent) 2023 – 2025 |
| <ul style="list-style-type: none">Developed mathematical models for cryptocurrency price prediction using reinforcement learning and statistical analysisImplemented and backtested quantitative trading strategies achieving 4.08% return with Sharpe ratio 1.42Built real-time signal generation system processing market microstructure data with sub-millisecond latencyCreated comprehensive backtesting framework for strategy validation and risk assessment | |
| C++, Distributed Systems, Performance Engineering | X-Shard: Distributed Transaction Engine 2023 – 2024 |
| <ul style="list-style-type: none">Developed mathematical models for distributed consensus achieving 37% latency reduction via algorithmic optimizationApplied statistical techniques and predictive modeling to optimize system performance in high-frequency environmentsPublished: IEEE Trans. on Parallel and Distributed Systems, 2024 | |
| C++, Rust (FFI), MPI, Optimization | High-Performance Co-Clustering System 2020 – Present |
| <ul style="list-style-type: none">Developed novel statistical clustering algorithms for large-scale data analysis on 800K+ document corpusImplemented high-performance computational models reducing 83% runtime through algorithmic optimizationPublished in IEEE SMC 2024 and IEEE TIM | |
| C++, PyTorch, CUDA | LMEraser: Fast Transformer Optimization 2023 – Present |
| <ul style="list-style-type: none">Developed mathematical frameworks for transformer model optimization using statistical learning theoryApplied advanced optimization techniques to 86M+ parameter models achieving 100x performance improvementConducted 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

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| HK PhD Fellowship (Top 5% acceptance) | 2020–2024 |
| National Encouragement Scholarship (Top 2%) | 2017–2018 |
| Patent: Physical Activity Assessment System: HK30081186 | 2023 |