

Hongxu Lai

Shenzhen, China | +86 133 1687 8302 | adrian@adrianxv.cn | github.com/itsadrianxv | adrianxv.cn

Education

Central South University <i>B.Eng. in Computer Science and Technology</i>	September 2023–June 2027
Weighted Average Score: 88.07/100, Rank: 55/258; Languages: English (CET-6: 648; IELTS: 8.5), Cantonese	
Hong Kong University of Science and Technology <i>M.Sc. in Big Data Technology</i>	Starting September 2027

Technical Skills

- **Programming:** C++20, Python, SQL
- **Networking and Concurrency:** Linux network programming, nonblocking sockets, epoll, TCP/UDP multicast, std::atomic, SPSC lock-free queues
- **Memory and Performance:** Memory pools, Linux perf, Callgrind
- **Engineering Tools:** Docker, PostgreSQL, GoogleTest, CMake, Ninja, Git, GitHub
- **Trading and Financial Data:** CTP API, VeighNa, TuShare, Wind, iFinD, TradeBlazer

Professional Experience

Hunan Wanjun Capital Management Co., Ltd. <i>Quantitative Developer Intern</i>	November 2025–May 2026
• Developed a MACD-TD index options strategy with Python and VeighNa, covering signals, execution, and risk controls. • Helped develop an options-selling portfolio strategy with signal generation, execution, and risk controls. • Built an options arbitrage monitor using live cross-contract spreads and order/position states to identify and trade inverted spreads. • Migrated MACD-TD to a shared account-level CTP connection via vnpy_rpc, with shared PostgreSQL and Docker Compose services. • Backtested MACD strategies in TradeBlazer and compared parameter sets across indicator configurations and trading products.	
Guosheng Securities Research Institute <i>Equity Research Intern, Electronics, New Fortune Team</i>	June 2025–September 2025
• Researched AI computing and storage, tracking cloud capital expenditure, storage prices, server supply chains, and production progress. • Independently wrote an in-depth report on Foxconn Industrial Internet (601138.SH), published after team review. • Drafted an in-depth report on Longcheer Technology and prepared weekly reports and roadshow materials. • Handled data collection, thesis validation, and report writing using Wind/iFinD terminals and their Word/Excel plugins.	

Projects

jev-quant: C++20 Simulated Trading System	September 2026–Present
• Built market-data, strategy, risk, and order modules; used Jev via OpenRouter for trading decisions and connected to SimNow. • Built a variadic-template memory pool to preallocate and reuse slots, reducing allocations in market-data and order-book hot paths. • Built async logging with fixed-size formatting buffers and an SPSC lock-free queue feeding a dedicated file-writing thread. • Wrote GoogleTest unit, component, and integration tests for queues and order books; ran regressions with CTest and GitHub Actions. • Measured SimNow P50/P95/P99 latency with timestamps; used Callgrind to find instruction hotspots in market-data and decision processing.	
simex: C++20 Exchange Simulator	September 2026–Present
• Built an order gateway, matching engine, position checks, and market-data publisher; a state machine drove call and continuous auctions. • Connected matching, order gateway, and market-data threads through std::atomic-based SPSC lock-free queues. • Used Linux epoll and nonblocking sockets for TCP orders and callbacks, plus UDP multicast for market-data updates and book snapshots. • Built a time-priority book with pooled memory, hash tables, and doubly linked lists for O(1) price/order lookup and node removal. • Built the project with CMake and Ninja and used GitHub Actions to run GCC and Clang builds and automated tests with CTest.	
Order and Position State Management <i>Hunan Wanjun Capital Management Co., Ltd.</i>	February 2026–April 2026
• Refactored order and position management in Python/VeighNa, updating strategy state from order, trade, and position events. • Updated the order state machine to track unconfirmed orders and reconcile account and strategy positions before placing orders. • Saved state in MySQL for restart recovery and account sync; detected snapshot-write conflicts with instance IDs and heartbeats. • Wrote pytest tests for startup sync, order updates, cancellation retries, position checks, and closing-quantity recalculation. • Deployed trading services with Docker Compose and standardized dependencies with a Dev Container for development and debugging.	

Extracurricular Activities

Publicity Team Member <i>Student Entrepreneurship Association, Central South University</i>	September 2024–June 2025
• Designed posters and event materials, wrote promotional posts, and photographed and filmed association events.	

Honors and Awards

• Second-Class Undergraduate Academic Scholarship, Central South University	November 2024
• Provincial Second Prize, Blue Bridge Cup Software Competition	May 2025
• National Second Prize, National English Competition for College Students	May 2025