

Chin-Nien Chen (Thomas)

Software Engineer | Data Engineer | Quantitative Developer

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Work Experience

Quantitative Developer | Ephod Technology Ltd.

2022.04 - 2025.03

Responsible for factor productionization and high-load ETL optimization.

- Refactored core calculation jobs through algorithmic optimizations and SQL tuning, slashing execution time from 120 minutes to 12 minutes.
- Orchestrated automated workflows using Airflow and AWS Batch, with a custom dual-layer monitoring system to guarantee data integrity.
- Engineered resilient web scrapers for alternative market data ingestion.

Quantitative Developer | Manteio Capital

2020.11 - 2022.02

Built trading infrastructure from scratch and optimized quantitative strategies.

- Architected a distributed trading scheduler using Airflow, implementing worker isolation for proprietary logic and multi-zone execution.
- Collaborated to productionize Futures/Options strategies, reducing backtest time from 6+ hours to 30 minutes via caching and refactoring.
- Modularized trading algorithms to enable rapid deployment across different markets.
- Developed internal web services to streamline operations and cross-timezone collaboration.

Data Engineer & Software Engineer | Sinopac Securities

2018.03 - 2020.07

Bridged data engineering and trading system construction.

- Built cross-departmental data pipelines and RESTful APIs applied to internal and external systems.
- Integrated BERT models to generate tag suggestions for customer data, enhancing searchability and data entry efficiency.
- Developed a personalized news recommendation engine based on user trading history, portfolio holdings, and reading behavior.
- Redeveloped the Emerging Stock trading algorithm to identify profitable spreads from FIX data; achieved 4x faster overall execution and 10x faster orderbook lookup.
- Architected a low-latency post-trade risk management system (1-2 ms).

Software Engineer | Freelance

2016.06 - 2018.02, 2013.06 - 2014.06

Delivered custom automation tools and technical consulting for diverse clients.

- Developed high-speed purchasing bots, crawlers, and software plugins (e.g., Maya) to automate workflows.
- Consulted on system analysis, code optimization, automation testing, and SNMP programming.

Software Engineer | Mitac

2014.07 - 2016.05

Built intelligent railway control systems and optimization algorithms.

- Developed the Automatic Train Supervision (ATS) server for railway traffic control.

- Implemented Automatic Train Regulation (ATR) algorithms using Machine Learning and Particle Swarm Optimization (PSO).

Software Engineer | Quanta Computer Inc.

2010.01 - 2013.05

Engineered embedded Linux systems for enterprise server management.

- Developed blade server management OS and optimized SNMP architecture, reducing memory usage by 30%.
- Implemented critical system features including multicast support and load statistics.

Education

National Taiwan University

Bachelor of Science in Mathematics | 2004.09 - 2008.06

Skills

Programming Languages: Python, C, SQL, C++, PowerShell

Dev Tools: Git, Docker, PuDB, GDB, Valgrind, Google Benchmark

Experienced in: Airflow, Web Scraping, PostgreSQL, Redis, GCP, Azure, AWS

Interests: Linear Algebra, Numerical Analysis, Graph Theory

Other Projects

- 2020 HITCON Virtual Room Escape: Core developer; provided advice for event design and executed implementation.
- 2018 ApuJan Autumn/Winter Catwalk Show: Device programming and installation.