Jia Chen

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PROFESSIONAL SUMMARY

Software developer pursuing an MS in Software Development at Boston University, with a background in quantitative analysis, investment research, scientific operations, and business leadership. Research intern building an LLM-agent marketplace simulation at Boston University; designed and maintain two independent ~20,000-line Python applications with separate data pipelines and databases, plus a deployed full-stack web platform. Combines hands-on engineering with domain knowledge across finance, science, and industry.

SKILLS

Programming: Python, Java, JavaScript, TypeScript, SQL, R
Software Engineering: Object-Oriented Programming (OOP), Data Structures & Algorithms, Software Design Patterns, Concurrent Processing, Internationalization (i18n)
Web & Application Development: Node.js, WebSocket, Next.js, React, PyQt6, Git, GitHub, Recharts, Vercel, Render, PyInstaller
Data & Machine Learning: Pandas, NumPy, SciPy, scikit-learn, Matplotlib, Tableau, Excel
Database & Data Engineering: SQLite, Peewee ORM, API Integration, Data Caching, Rate Limiting, Incremental Synchronization
APIs & Data Sources: Google APIs, Kaggle API, yfinance, yahooquery, FRED, China-market data APIs
Domain Knowledge: Quantitative Finance, Scientific & Laboratory Workflows, Industrial Operations, Financial Data Analysis

RESEARCH EXPERIENCE

Research Intern, Market Design Interventions for Safer Agentic AI Sep 2026 – Present
Boston University, Prof. Marshall Van Alstyne *Boston, MA*

- Research a multi-agent marketplace in which human participants and LLM-powered AI agents trade as buyers and sellers, testing whether staking on advertised claims improves information reliability and market efficiency.
- Proposed an asynchronous, continuous-time market design and independently built a full-stack oTree (Python) prototype with buyer and seller interfaces; the design is under evaluation for the next experiment phase.
- Now developing LLM agent integration and data capture in the team's Empirica implementation, to analyze how AI participation affects buyer and seller decisions.

PROJECTS

Chen Quant Research Terminal: U.S. and China Market Editions 2026 – Present
Founder and Developer

- Designed and built two independent Python desktop applications for quantitative research, one for U.S. equities and one for China A-shares, each a separate ~20,000-line codebase with its own data sources and database.
- Architected each edition with object-oriented, modular design and multiple design patterns; built a PyQt6 GUI with 16 functional panels and concurrent processing via QThread workers, background threads, and signal-based progress reporting.
- Engineered market-specific data and persistence layers (yfinance, yahooquery and FRED for the U.S. edition; China-market data APIs for the China edition) with caching, rate limiting, incremental synchronization, and database transaction handling.
- Implemented a full Chinese/English bilingual interface for the China edition; added HTML/CSS report generation, PDF/DOCX export, and Windows packaging with PyInstaller.
- Implemented analytics including technical indicators, GARCH, factor models, VaR/CVaR, Monte Carlo simulation, and a backtesting engine; both editions are now in active use for live-market investment research.

Chen Quant Center 2026 – Present
Founder and Developer

- Designed and developed a web-based research and market analytics platform using Next.js, React, and Python.
- Integrated real-time market data through Yahoo Finance APIs and built interactive visualizations with Recharts; deployed and maintained via GitHub and Vercel.

Islandlife (TIDEBREAK): Multiplayer Online Game 2026
Developer islandlife.jialearning.org

- Built and published a browser-based multiplayer island-building game in JavaScript and Node.js 22 with no third-party runtime dependencies: ~16,000 lines of game and server code and 278 automated tests (node:test).
- Wrote the online server from scratch: HTTP server, RFC 6455 WebSocket layer with compression, accounts with password hashing, rate limiting, and SQLite persistence replicated to Turso; deployed on Render.

- Designed a config-driven game economy (27 buildings across 20 levels, production chains, heroes, a 40-player combat map) with schema validation, generated documentation, procedural sprites, and full English/Chinese localization.

HeartGuardian AI Oct 2026
Project Initiator and Team Coordinator, Hackachusetts & DS+X Hackathon 2026 Devpost
- Led a 4-person team to build and submit a working prototype of an AI-enabled cardiovascular monitoring app in Python (Amazon Kiro), with a real-time dashboard, historical trends, and an insights page explaining detected changes.
- Designed personalized anomaly detection on simulated wearable data (heart rate, ECG, sleep, activity, oxygen) to flag deviations from each user's baseline, with built-in safety guidance and medical disclaimers.

Student Consultant, "Think Like a Buy-Side Analyst" Build Project Oct 2026 – Present
Open Avenues Build Fellowship (selected from ~600 applicants)
- Researching and pitching an AI-related hardware stock from a buy-side perspective, analyzing the value chain from upstream suppliers to downstream demand to identify long-term investment opportunities in the AI investment cycle, under mentorship from an industry professional.

EXPERIENCE

Project Lead 2018 – 2022
Independent ESG Project: Energy-Efficient Residential Construction
- Led the planning and construction of a 6,000 sq. ft. energy-efficient home using cold-formed thin-wall steel prefabrication technology.
- Designed and implemented a self-sustaining solar and energy-storage system while managing project planning, supply-chain coordination, and construction execution.

Fund Manager; Investment Advisor 2014 – 2017
Shenzhen WuYue Wealth Fund Management; Tianfeng Securities & Ping An Insurance *Shenzhen & Guangzhou, China*
- Managed a RMB 3 million investment fund in futures and equities; conducted market analysis, risk assessment, and investment decision-making.
- Built portfolio recommendations for private investors and analyzed asset-allocation strategies across risk profiles.

Founder / General Manager 2004 – 2011
Guangzhou SGTECH Instrument Co. Ltd. *Guangzhou, China*
- Provided technical consulting and laboratory equipment solutions for food manufacturing, biotechnology, and biomedical research clients.
- Worked with equipment for chemical analysis, sample preparation, thermal processing, freeze drying, liquid nitrogen generation, and high-pressure homogenization.
- Delivered 100+ consulting, procurement, and technical integration projects with researchers, engineers, manufacturers, and international suppliers.

Inspector 2000 – 2002
CCIC-Canadian Standards Association (CSA) *Guangzhou, China*
- Inspected more than 1,000 electronic manufacturing facilities for international safety compliance.

CERTIFICATIONS

- Project Management Professional (PMP) (Mar 2026); Certified ScrumMaster (CSM) (Mar 2026)
- CFA Program: Level 3 Candidate (Feb 2027 exam)
- Human Subjects Protection Training, Social & Behavioral Research, CITI Program (Sep 2026)
- Mathematical Methods for Quantitative Finance, MITx/edX (Dec 2025)
- Instructional Design and Technology Certificate, Florida State University

EDUCATION

Boston University Boston, MA
Master of Science in Software Development *Expected Dec 2027*

Florida State University Tallahassee, FL
Master of Science in Instructional Systems & Learning Technologies. GPA: 4.0 *Dec 2025*

Bocconi University Milan, Italy
Master of Philosophy (M.Phil.) in Economics. Full PhD scholarship; completed first-year PhD coursework *Oct 2012*

Sun Yat-sen University Guangzhou, China
Lingnan–MIT Sloan Joint International MBA. GPA: 3.44 *Dec 2011*
Bachelor of Science in Physics *Jun 2000*