

Jiayu (Gavin) Zhang

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Academic Objective

Finance professional with strong foundation in actuarial science and 4+ years applying data science and machine learning in enterprise environments. Seeking to advance expertise in deep learning and predictive analytics, and contribute in expanding our frontier of knowledge in the field.

Academic Interests

- **Machine Learning in strongly autocorrelated and non-stationary time series data:** Applications of deep learning and neural networks for financial data to model risk, performance, and incorporate macroeconomic impacts.
- **Natural Language Processing in languages beyond English:** Exploring the value of alternate morphological structures such as characters in Sino-Tibetan languages and root/template systems in Semitic languages for improving tokenization, training and inference efficiency.
- **Human-centric Artificial Intelligence:** Long-term macro-economic impacts of ML/AI, and how to maintain interpretable, human-centric AI in both alignment and net ESG impact.

Education

Student Exchange Programme (Data Science), National University of Singapore Jun 22–Dec 22
Honours level Data Science

Coursework: Foundational Methods in Quantitative Finance (R, MATLAB), High Dimensional Data Analysis, Computer Intensive Statistical Methods, Time Series Analysis

Research Project: Applications of LSTMs in Financial Data Modelling and Prediction - comprehensive study examining long short-term memory networks for time series forecasting in financial markets, with focus on Singapore market dynamics.

Bachelor of Commerce (Actuarial Science), University of Melbourne Feb 20–Dec 22
Global Scholars Award

Relevant Coursework: Actuarial Data and Analytics (R, Python), Probability, Statistics, Actuarial Modelling (Copulas, Time Series, Heavy-tailed distributions)

International Baccalaureate Diploma, St Leonards College, Melbourne 2019
Score: 43/45; Proxime Accessit (Second in Class), Higher Level Mathematics and Physics. *Research Project:* Principal component analysis and exploratory data analysis on the key drivers of utility prices in Australia.

Projects

Financial Dashboarding — Real-time reporting

Tech: Python, Snowflake

- Built interactive dashboards with a Python backend connected to Snowflake, enabling real-time financial reporting and KPI visualization.

Automated Invoice Processing (AIP) — OCR + LLM extraction

Tech: OCR, LLMs, PostgreSQL (vector)

- Developed end-to-end invoice processing with OCR, document parsing, and LLM-based extraction; used a PostgreSQL vector database for semantic search.

Algorithmic Market Maker — Low-latency trading system

Tech: Python, AsyncIO, WebSockets

- Built a high-frequency trading system consuming real-time market data over WebSockets with an asynchronous, low-latency architecture.

Awards & Honors

PwC AI Hackathon — Winning Team

2024

Led winning team in company-wide AI innovation competition, developing advanced machine learning solution for business process optimization.

Competition Participation

2022–2024

Active participant in premier university analytical competitions: 180 Degrees Consulting Case Competition, EY Data Analysis Competition, and Optiver Market Making Autotrader Competition.

Melbourne Global Scholars Award — University of Melbourne

2019

Scholarship recognizing academic excellence facilitating global mobility.

Physics Olympiad High Distinction

2018

Achieved high distinction in national physics competition, demonstrating advanced problem-solving in theoretical and applied physics.

Australian Mathematics Competition

2016–2018

Multiple awards including Distinction, High Distinction, and Prize.

Experience

Senior AI Analyst (Finance) — Ignite Tech

Jun 25–Ongoing

- Implemented scalable workflows in Zapier, n8n, and Python across operations, reducing costs and improving EBITDA margin by 20%.
- Managed revenue operations and post-acquisition integration, setting up BigQuery & Dataform reporting that reduced revenue slippage by 85%.
- Championed AI tool adoption across teams, saving 2+ hours per person weekly.
- Reported to the CFO on efficiency, ROI, and AI initiative adoption; owned traditional financial reporting.

Founder & Data Science Consultant — ZhangData

Oct 2024–Present

- Founded independent consulting practice specializing in AI and data science solutions for SMEs and startups.
- Delivered end-to-end data analytics projects including predictive modeling, business intelligence, and automation.
- Applied top models such as XGBoost and Prophet in production environments for SMEs with significant ROI.

Senior Consultant (Deals) — PricewaterhouseCoopers

Nov 21–Jun 25

- Built FastAPI backends for financial data processing with validation, improving retrieval speed by 40% and achieving 99.9% data accuracy.
- Engineered scalable, parallelized data pipelines applicable to customer data integration workflows.
- Led data-driven analyses across manufacturing, SaaS, and pharma for deals totaling \$1B+.
- Enhanced due diligence with AI document processing and natural language data query.
- Translated complex business requirements into technical solutions for cross-functional stakeholders with consistently strong client feedback.

Digital Marketing and SEO Analyst — Knog, Melbourne

Dec 2020–Apr 2022

- Conducted keyword analysis and web traffic data mining to optimize search engine rankings for cycling brand.
- Assisted in building "Find nearest retailer" feature and A/B tested its effectiveness.
- Researched and wrote content based on keyword research to maintain brand presence.

Supply Chain Data Analyst — 3Fold Resources

Aug 20–Nov 21

- Designed Python-based pipelines to automate procurement workflows, reducing manual work by 3+ hours weekly.
- Built analytics to optimize supplier selection, cutting costs by 75% for key components.

Sales Trainer & Data Support — Hybridd Marketing, Melbourne Mar 2020–Jun 2021

- Conducted sales training sessions while tracking performance metrics and conversion rates across team members.
- Analyzed sales data to identify patterns and provide insights on effective training approaches and client targeting.
- Supported CRM data management and created basic reports to track training program effectiveness.

Sales Representative — RL Education, Melbourne Dec 2019–Jun 2020

- Conducted sales calls and client meetings for educational programs while maintaining detailed activity logs.
- Tracked conversion metrics and lead sources to understand customer acquisition patterns.
- Supported data entry and basic analysis of sales pipeline performance for team reporting.

Community Programs Volunteer — Shizuishan Community Centre, China Dec 2017–Feb 2018, Dec 2018–Feb 2019

- Supported community outreach programs and assisted with social media content creation in Mandarin.
- Helped track participation rates and attendance at community events using basic spreadsheet analysis.
- Contributed to program evaluation by collecting feedback data and creating simple reports on engagement levels.

Publications & Speaking

AI Applications in Financial Distress Analysis — PricewaterhouseCoopers 2024

Presented to senior leadership and broader team on emerging AI methodologies for analysing financial indicators and enhancing due diligence processes in M&A transactions.

Technical Blog — www.zhangdata.com Jan 2025–Present

Published articles on data science applications in finance, machine learning in business operations, and AI implementation strategies.

Career Panel Speaker — ACYA (Australian Chinese Youth Association) 2022–2024

Regular speaker at career development panels, sharing insights on transitioning from actuarial science to data science and AI roles in finance.

Skills

AI/LLM: LangChain Suite, Vertex, Vector DBs, RAG, OpenAI, Bedrock, MCP

Programming: Python, R, SQL, Julia, Haskell, Typescript

Data Engineering: ETL & ELT, Data Warehousing, Airflow, PostgreSQL, Snowflake, RDS, BigQuery

Backend/Infra: FastAPI, Docker, Kubernetes, Serverless Functions, Git

Analytics/BI: PowerBI/DAX, Tableau, Looker, Jupyter

Languages: English (Native); Mandarin (Native); Spanish (Professional); Russian (Intermediate); Arabic (Intermediate)

Certifications

CFA Level 1 — CFA Institute 2024

Chartered Financial Analyst certificate demonstrating proficiency in investment analysis, portfolio management, and financial modeling.

AI Project Manager — Coursera 2024

Completed comprehensive project management certification focused on AI implementation, agile methodologies, and cross-functional team leadership in technology environments.

Chartered Accountants Foundation Program — CAANZ Australia 2023–2024

Completed core subjects: Financial Analysis, Business Law, and Financial Modelling. Developed com-

prehensive understanding of accounting principles, legal frameworks, and quantitative financial analysis methods.

Leadership & Service

Deals AI Champion — PricewaterhouseCoopers 2023–2025

- Led AI adoption initiatives across the Deals practice, driving innovation in due diligence and financial analysis processes.
- Developed training programs and best practices for AI tool integration in M&A workflows.
- Collaborated with technology teams to implement scalable AI solutions for deal teams.

Graduate Representative — PricewaterhouseCoopers 2022–2023

- Represented graduate cohort interests to senior management and HR teams.
- Facilitated communication between new graduates and leadership on workplace policies and professional development.
- Organized graduate networking events and mentorship programs.

Director — Melbourne University Dancesport Society 2021–2022

- Directed strategic planning and operational management for competitive dancesport society with 150+ members.
- Coordinated national competition participation and training programs for ballroom and Latin dance disciplines.
- Managed budget allocation, event logistics, and partnerships with external dance organizations.

Sponsorship Officer — Actuarial Students' Society, University of Melbourne Mar 2020–Dec 2020

- Proactively reached out to potential corporate sponsors and built relationships with industry professionals for society events.
- Organized sponsor networking events and coordinated logistics for career fairs and professional development sessions.
- Maintained sponsor databases and tracked partnership outcomes to support future sponsorship applications.

Community Service

Public Health Research Volunteer — Uganda Malaria Consortium 2024

- Participated in malaria surveillance and prevention research initiatives in rural communities.
- Contributed to epidemiological data collection and field research for disease monitoring programs.
- Engaged in community health education and awareness programs promoting malaria prevention practices.

Language Exchange Volunteer — AMES Australia 2017–2019

- Provided conversational English support for new immigrants and refugees in community integration programs.
- Facilitated cultural and language learning in group and one-on-one settings for students from teenagers to retirees.
- Supported multicultural community events and integration activities such as group outings and cultural exchange events.

Digital Literacy Volunteer — Brighton Library 2016–2018

- Provided technical support and digital literacy training for elderly community members.
- Taught basic computer skills, internet navigation, and digital communication tools.
- Developed patient, accessible teaching methods for diverse technological comfort levels.

Mentorship

ML/AI Development Mentor — Romitan City Government, Uzbekistan 2025

- Mentored ML/AI developers in application architecture and best practices for government infrastructure constraints.
- Enhanced team capabilities in machine learning implementation and scalable system design.
- Facilitated knowledge transfer sessions on modern development workflows and deployment strategies.

Professional Development

Conference Participation — Data Science & AI Industry Events 2022–Present
Regular attendee at major conferences including PyData, AI Summit, MLAI events in Melbourne, and FinTech Australia events. Active participant in workshops, networking sessions, and technical presentations to stay current with industry trends and emerging technologies.

References

References available upon request.