Xingyu Chen

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Education

Fudan University   **09/2022 - 06/2026(E)**

Major：Chemistry   **GPA:** 3.61/4.0 (Rank:22/104)

Relevant Courses: Financial Derivatives, Mathematical Methods in Finance, Machine Learning and Neural Networks, Natural Language Processing, Algorithms, Stochastic Processes, Applied Functional Analysis,

Honor: Fudan University Second-Class Scholarship (Top 10%) (x2); National Silver Medal, Chemistry Olympiad; Champion, Fudan University Debate Competition.

Skills: Python, Linux, Go, English (Fluent: IELTS 7.5), Strong self-learning and stress resilience, Receptive to criticism.

Research Experience

Machine Learning Model Development   *Fudan University*

Researcher | Mentor: Junliang Zhang (Professor)   *Jun 2023 - Jun 2024*

- Design and select an appropriate multilayer perceptron (MLP) model structure, including determining the number of layers, neurons, and activation functisons based on the characteristics of chemical reactions.
- Train the model with different parameter configurations, adjusting parameters such as learning rate, batch size, and regularization terms, and apply cross-validation techniques to evaluate model performance.
- Successfully Build and train an MLP model to predict chemical reaction selectivity, using the model to predict product ratios with an R^2 of 87%.

Quantitative Financial Analysis   *Fudan-Stanford Institute for China Fintech*

Research Assistant | Mentor: Qingfu Liu (Professor)   *Sep 2024 - Jan 2025*

- Scrape content related to U.S. political figures from news databases and fact-checking websites.
- Build models to quantify the impact of news data on political figures over certain period, creating a political misinformation index to analyze the correlation between financial markets and political figures.
- Incorporate political factors in stock return predictions with Natural Language Processing (NLP) and employ machine learning to forecast abnormal returns over specified time spans. (working paper)

Multimodal Diffusion Large Models   *Fudan University - Alibaba*

Researcher | Supervisor: Dr. Baojian Zhou (Young Associate)   *Jul 2025 - Present*

- Design model architecture to map multimodal data (images, PDFs, audio, scientific data) to latent space.
- Investigate the Chain of Thought (CoT) in large models, researching the interpretability and training stability of their "reasoning abilities".
- Reduce costs and enhanced multi-task performance by independently training smaller, domain-specific models and applying model fusion.

Project & Internship Experience

Intern, Debt Financing Department   *Guotai Junan Securities*   *Jun 2024 - Sep 2024*

- Develop expertise in comprehensive analysis methods for companies, incorporating financial data, market position, and operational status to assess overall corporate health.
- Gain in-depth knowledge of the full process of corporate bond financing, including the scope, issuance conditions, risk assessment, and characteristics of various bond types.
- Independently draft internal project initiation documents and responses, bid documents, proposals for an external company, and multiple transactional documents

Intern, Investment Quant Model Development   *UBS*   *Jan 2025 - May 2025*

- Study bank capital composition and calculation under Basel Accords; used machine learning to identify influencing factors and propose optimization solutions for risk management
- Study the pricing of financial derivatives and corresponding XVA models.

CTO Management Trainee - Algorithms   *RetailEye*   *May 2025 - Present*

- Design a display optimization system using linear programming to solve freezer layouts under category-concentration constraints, maximizing overall profitability; completed visualization modules.
- Train large models and designed algorithms for a 3D shelf reconstruction and crossimage SKU matching pipeline; significantly reducing redundancy and enhancing efficiency.

Xingyu Chen 陈星宇

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教育背景

复旦大学	**2022.09-2026.06（预计）**
专业：化学	**GPA:** 3.61/4.0（Rank:22/104）

- **课程：** 金融衍生品，金融中的数学方法，证券投资与实证分析，机器学习与神经网络，自然语言处理，数据结构与算法导论，数理统计，随机过程，应用泛函分析，复杂网络与仿真系统。
- **能力：** Python, Linux, Go，英语(流利: 雅思 7.5 分)，自学能力、抗压能力强，积极接受批评
- **荣誉：** 两次获得复旦大学二等奖学金(top10%); 化学奥赛全国银牌; 复旦大学辩论赛冠军

科研经历

量子化学计算与机器学习模型开发	**复旦大学张俊良教授课题组**
课题独立开展者 | 导师：张俊良（教授/长江学者）	2023.6-2024.6

- 将化学反应和化合物的图像数据转换为向量，以确保数据质量和模型训练效果
- 基于化学反应特性，设计和选择合适的多层感知机（MLP）模型结构
- 在模型选定后，使用不同的参数配置进行训练，再通过调整学习率、批量大小、正则化项等参数，以及运用交叉验证技术，训练并评估模型性能
- 成功构建并训练了预测化学反应选择性的 MLP 模型，使用模型预测反应产物比例，R^2 为 87%

现代金融学中的量化金融分析	**复旦—斯坦福中国金融科技与安全研究院**
科研助理 | 导师：刘庆富（教授）	2024.9-2025.1

- 从国外信实的新闻数据库及新闻澄清网站爬取美国政治人物虚假新闻
- 构建数学模型，以量化新闻数据对政治人物在特定时间的影响，建立政治人物-新闻指数，进而运用统计方法深入研究金融市场与政治人物关联度
- 结合自然语言处理，在股票市场中加入政治因子，利用机器学习预测一定时间内的异常收益率

多模态扩散大模型的设计与训练	**复旦大学—阿里巴巴**
课题开展者 | 导师：周宝健（青年副研究员）	2025.7-至今

- 扩散模型架构设计: 将图像、文本、PDF、音频及各类科学数据数据通过特定架构映射至潜空间
- 针对扩散模型的训练过程中梯度不稳定问题，引入噪声调度与课程学习机制，提升模型收敛效率
- 探究大模型的思考链（CoT），研究大模型的"思维能力"的可解释性以及训练稳定性
- 分别在各个领域独立训练小模型，再通过模型融合的手段，降低成本，提升多任务表现

项目经历

国泰君安债券融资部实习生	**国泰君安证券** 2024.6-2024.9

- 掌握城投性企业整体分析的方法，结合财务数据、市场地位和运营状况等因素，综合评估企业
- 深入了解企业债券融资的全流程，包括不同债券品种（如企业债券、金融债券、可转换债券等）的适用范围、发行条件、风险评估及其各自的特点
- 独立撰写 5 篇内部立项文件及答反馈、3 篇投标文件、1 篇对外企业的建议书及多篇事务文件等

投资量化模型开发实习生	**瑞士银行** 2025.1-2025.5

- 学习巴塞尔协议下银行资本金的构成和计算，并通过使用前沿的机器学习技术，发掘影响因素并提出优化方案，有利于企业进行风险管理。
- 学习金融衍生品的定价，以及相应 XVA 的模型。

CTO 管培生—算法方向	**零眸智能** 2025.5-至今

- 开发零售陈列优化系统，运用线性规划算法求解冰柜布局，满足品类集中等约束，实现冰柜整体最大化收益，同时完成数据预处理及可视化模块
- 训练大模型、设计算法相关算法，以构建 3D 货架重建与 SKU 跨图匹配流水线，完善去重与全局 ID 映射，显著降低识别冗余度，提升处理效率及稳定性，同时完成交互性网页设计。
- 改进传统循环对抗网络(GAN)，引入方向性语义约束，训练特定场景下的商品风格迁移模型