Ren Li

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EDUCATION

Nankai University, School of Finance **M.S. in Fintech** *Sep 2024-Jun 2026*

- **Honors &Awards:** First Class Scholarship for Postgraduate Admission (2024)

Nankai University, School of Finance **B.A. in Finance** *Sep 2020-Jun 2024*

- **GPA:** 3.78/4 (Average Score: 90.1/100)
- **Honors &Awards:** First Prize in Chinese Undergraduate Mathematics Contest, Tianjin Division (2022)
  Scholarship of Academic Excellence (2023), Scholarship of Social Welfare (2023)
- **Core Courses:**
  Math: Probability (99.3), Calculus (94.5), Classical Statistics with MATLAB (95), Linear Algebra (91.6)
  Coding: Introduction to Python &Machine Learning (95), Tourism data mining based on Python (94), Economic Data Analysis (96.4), Data Structures and Algorithms (92.3)
  Finance: Econometrics (93.8), Financial Econometrics (93.6), Financial Engineering (93), Corporate Finance (93.6), Fixed Income Analysis (94)

RESEARCH INTERESTS

Statistical Inference, Financial Econometrics, Machine Learning, Operations Research, Optimization

RESEARCH EXPERIENCE

Stock Return Based on the Multifactor Model with Stock Liquidity and Popularity *Working Paper* *Mar 2023*

- Based on the dataset of the company stocks listed on the Beijing Stock Exchange, use the Fama-Macbeth regression method to examine the influence of the popularity factor and liquidity factor on the stock's excess return.
  - ✓ **Indicator Construction:** Based on the risk-free interest rate from November 2020 to November 2022 and the panel data of turnover rate, trading volume, number of shareholders, daily return and other characteristics of the companies on the selected layer of the New OTC market, where companies are listed on Beijing Stock Exchange after its opening (2021.11), use Python for data cleaning and processing. Build the shadowcost and ILLIQ indicators as the stock popularity and liquidity factors, conduct descriptive statistical analysis on them, and winsorize to drop the outliers;
  - ✓ **Model Construction:** Based on the established indicators of shadowcost and ILLIQ, listing time and market capitalization, use Python to set the Fama-Macbeth regression of the company's excess return on the indicators and other control variables, and a conclusion is drawn (the higher the popularity and liquidity level, the lower the excess return of stocks, and the conclusion is significant);
  - ✓ **Robustness Test:** Divide the panel data into two parts according to the time: before and after the opening of the Beijing Stock Exchange (2021.11). Perform the Fama-Macbeth regression of the excess return on the factors to test whether the conclusion was significant in each period (the conclusion passed the test in the period before the opening of the Beijing Stock Exchange but did not pass the test after its opening).

PROJECT EXPERIENCE

Time Series Prediction of Store Sales Based on LSTM and Several Models *Personal Project* *Jun 2022*

- Under the organization of Associate Professor Wang Kai of the College of Computer Science at Nankai University, complete the Kaggle machine learning competition project "*Store Sales Time Series forecasting*".
  - ✓ **Data Cleaning and Processing:** Use Python Pandas library to read Kaggle data in DataFrame format, which includes store No. and its city, the volume of various commodities in the store, transaction date, whether it is promotional, oil price on the day, holiday date, etc. Convert the date and text data into datetime and one-hot encoding formats respectively. A few missing values are only found in oil price data, and use the fillna function to fill them with the forward filling method;
  - ✓ **Data Visualizing and Feature Engineering:** Use matplotlib and seaborn libraries to draw oil price time trend, total commodity sales time trend, trading volume and sales scatter plot and other graphics, and analyze the relationship between each feature and the label (sales volume). Store No., commodity category, oil price, trading volume, date, promotion or not, which are most closely related to sales volume, are selected as the best features to predict label value and construct the training set data sample by merging the merge function;
  - ✓ **Model Training and Prediction Performance:** Build LSTM (Long Short-Term Memory) network, SVR (Support Vector Regression) model, random forest model and linear regression model, perform cross-validation on the training set data and iteratively adjust each model to appropriate parameters. Taking RMSE as the evaluation index, it is found that the prediction accuracy of the models was ranked as SVR > Random Forest > Linear Regression > LSTM. However, in general, the prediction error of each model is significant.

INTERNSHIP EXPERIENCE

Soochow Securities Co., Ltd. *Equity Research, Media and Internet Sector* *Dec 2022- Feb 2023*

- **Data Analysis:** Search data from the Choice, Wind database and public information; Collect industry and key enterprise financial and operating data; Use Excel to integrate analysis and draw graphics;

- **Industry Research:** Participate in road shows, earning calls, etc., and take meeting minutes; Assist in predicting the future trend of the Internet e-commerce industry by calculating market share and sinking market growth rate; Sort out the government regulatory policies of the Internet industry from 2019 to 2022, and analyze the impact of government's policy shifts on the Internet platform economy;
- **In-depth Research:** Participate in co-authoring the comprehensive report *"The Review and Outlook of the Hong Kong Stock Exchange's Bull Market"*, which reviews the bull market of the Hong Kong Stock Exchange from 2002 to 2023, focusing on economic fundamentals, government policies, domestic and international liquidity, and valuation factors. The report also compares the Hang Seng Index with the CSI 300 index and the S&P Index, concludes the reasons behind the bull market, and provides a forward-looking analysis of market prospects for both the Hong Kong stock market and the Internet sector.

Everbright Securities Co., Ltd. *Debt Financing Headquarters, Bond Undertaking* *Nov 2023- Jan 2024*

- **Financial Analysis:** Conduct in-depth analysis of bond issuers' operating ability, solvency, profitability, and other financial conditions based on their financial reports, audit reports, and rating reports. Also, assess the impact of major events such as corporate mergers and acquisitions on their financial conditions;
- **Document Preparation:** Write project initiation reports, prospectuses, explanatory documents, due diligence reports, bond redemption, and interest payment announcements for bond issuance (e.g., corporate bonds, inter-bank bonds, etc.). Publish relevant documents on regulatory platforms such as the Shanghai Stock Exchange and Nafmii (National Association of Financial Market Institutional Investors);
- **Market Research and Other Duties:** Refine and compile business, credit, financial, and other information of companies with potential debt financing needs; Analyze target customer companies; Attend training meetings held by Stock Exchanges and take meeting minutes; Complete other related tasks assigned by mentors.

SKILLS

- **Coding:** MATLAB, R, Python, Machine Learning (Keras, Tensorflow, etc.), Data Processing (Pandas, Seaborn, etc.)
- **Language:** Chinese (Native), English (CET6 (601), IELTS (6.5))

李任

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教育背景

南开大学　　金融学院　　金融科技方向，硕士　　2024.09-2026.06

- **所获荣誉：**2024年度研究生入学一等奖学金

南开大学　　金融学院　　金融学，本科　　2020.09-2024.06

- **GPA：**3.78/4（均分：90.1/100）
- **所获荣誉：**学业优秀奖学金(2023年)、社会公益奖学金(2023年)
  全国大学生数学竞赛天津赛区一等奖(2023年)、全国大学生英语竞赛天津赛区三等奖(2023年)；
- **相关课程：**概率论（99.3）、多元函数微积分（100）、经典统计学与MATLAB应用（95）、计量经济学（93.8）；
  Python与机器学习入门（95）、Python与旅游数据挖掘（94）、数据结构与算法（92.3）；
  经济数据分析（96.4）、金融计量经济学（93.6）、金融工程（93）、固定收益证券（94）；

科研经历

知名度、流动性因子对股票收益率影响研究　　个人论文　　2023.01-2023.03

- 基于股票面板数据建立Fama-Macbeth回归模型，探究北交所股票知名度、流动性等因子对其超额收益率的影响
  - ✓ **指标构建：**基于2020年11月-2022年11月期间无风险利率以及由新三板精选层上市北交所公司的换手率、成交金额、成交量、股东数量、日收益率等指标的面板数据，利用python进行数据清洗及时间序列预处理，构建shadowcost、ILLIQ指标作为公司知名度因子、流动性因子；
  - ✓ **模型构建：**基于已构建的shadowcost、ILLIQ、上市时长、市值规模等因子，利用python建立公司超额收益率对各因子的Fama-Macbeth回归，得出结论（知名度越高、流动性水平越高，股票超额收益率越低，结论显著）；
  - ✓ **稳健性检验：**在北交所开市（2021.11）前后两个时期将超额收益率对各因子做Fama-macbeth回归，检验结论是否显著（在北交所开市前时期通过检验；在北交所开市后时期仅shadowcost通过检验，ILLIQ未通过检验）。

项目经历

基于LSTM等模型的商店销量时间序列预测　　个人项目　　2022.03-2022.05

- 在南开大学计算机学院王恺副教授组织下，完成Kaggle网站机器学习竞赛项目：Store Sales-Time Series forecasting
  - ✓ **数据清洗与预处理：**利用Python pandas库读取Kaggle网站数据为dataframe格式，数据包含商店编号及其所在城市、商店中各类商品交易量、交易日期、是否促销、当日石油价格、节假日日期等。将日期数据、文本数据分别转化为datetime格式、onehot编码格式，查看缺失值情况发现仅油价数据有较少缺失，利用fillna函数以向前填充方式填充；
  - ✓ **描述性统计与可视化：**利用matplotlib、seaborn库绘制油价时间趋势、商品总销量时间趋势、交易量与销量散点图等图像，分析各属性变量与标签值（销量）之间关系，挑选与销量关系最紧密的商店编号、商品类别、油价、交易量、日期、促销与否作为预测标签值的最佳属性，利用merge函数合并构建训练集数据样本；
  - ✓ **模型训练与预测结果评价：**搭建LSTM（长短周期记忆）网络、SVR（支持向量机回归）模型、随机森林模型、线性回归模型，在训练集数据样本上进行交叉验证，并对各模型迭代调整到合适参数。在最优参数下，以RMSE为评价指标，发现模型预测准确性排序为：SVR>随机森林>线性回归>LSTM，但总体而言，各模型预测误差均较大。

实习经历

东吴证券有限责任公司|研究所　　传媒互联网组（新财富组）　　2022.12-2023.02

- **数据分析：**检索Choice、Wind数据库及公开资料，收集行业及重点企业财务及经营数据，利用Excel整合分析并制图；
- **行业调研：**参与路演、业绩说明会等并整理会议纪要；通过计算市场占有率、下沉市场增长率等协助完成对互联网电商行业的未来趋势预测；整理互联网行业2019年至2022年政府监管政策，分析政策转向对互联网平台经济的影响；
- **深度研究：**参与撰写《港股牛市的复盘和展望》深度报告，从经济基本面、政策面、海内外流动性、估值角度对港股2002年至2023年牛市复盘，对比恒生指数与沪深300指数、标普指数，分析牛市动因，并进一步展望港股与互联网板块市场前景。

光大证券有限责任公司|债务融资总部　　债券承做实习生　　2023.11-2024.02

- **财务分析：**依据债券发行人财务报告、审计报告、评级报告，对发行人经营能力、偿债能力、盈利能力等财务状况以及公司并购重组等重大事件对其财务状况的影响进行深入分析；
- **底稿制作：**制作公司债、企业债、银行间债券等债券发行的立项报告书、募集说明书、说明性文件、尽职调查报告、债券兑付及付息公告等文件底稿；并在证监会、Nafmii等监管平台公布相应文件；
- **市场调研与其他工作：**收集整理具有潜在债务融资需求的公司的工商、信用、财务等信息，分析并挖掘目标客户公司；听取证监会、交易所培训会议并制作会议纪要；完成上级要求的其他相关工作。

研究兴趣及专业技能

- **研究兴趣：**计量经济学（统计&因果推断），金融时间序列分析，金融数学（随机分析），机器学习，运筹与优化
- **计算机技能：**Matlab，Python，机器学习（Keras, Tensorflow等），数据分析与可视化（Numpy, Pandas, Seaborn等）
- **语言技能：**CET6（601），雅思（6.5）