TIAN TANG

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EDUCATION

University of Michigan (UM)   **Ann Arbor, MI**
M.S. in Quantitative Finance and Risk Management (GPA: 3.6/4.0)   2022.08 – 2024.05
Southeast University (SEU)   **Nanjing, CN**
B.S. in Management (Minor in Mathematics) (GPA: 3.8/4.0)   2017.09 – 2021.06
- First Prize of Mathematics Competition of Chinese College Students (Top 1%)

SKILLS & COURSEWORK

- **Mathematics:** Calculus, Linear Algebra, Statistics, Probability, Stochastic Process, Stochastic Analysis in Finance, Financial Math
- **Programming:** Python (TensorFlow, PyTorch, NumPy, Pandas), C++, MATLAB, R, MySQL, Data Structure, Algorithm
- **Machine Learning:** Natural Language Processing, Deep Learning, Data Science in Finance, Statistical Learning

PROFESSIONAL EXPERIENCE

Fuju Investment   **Beijing, CN**
Quantitative Research Intern   2022.05 – 2022.08
- Developed an intraday multi-factor trading strategy for futures markets with dynamic long and short position adjustments;
- Utilized key factors including momentum, roll yield, warehouse receipt changes, liquidity and fund flow to generate trading signals
- Executed precise timing, order execution, and position management protocols, adapting efficiently to market conditions, achieving a Sharpe ratio of 1.95 in back-testing

AInvest   **Beijing, CN**
Quantitative Research Intern   2021.05 – 2021.11
- Conducted sentiment analysis on research reports: Extracted, refined, and segmented text and chat data, identifying key emotive terms that aligned with a predefined sentiment corpus
- Utilized the BERT model for text encoding; produced daily sentiment factors using a linear attenuation weighting approach; employed LIT to forecast and interpret positive/negative sentiment outcomes
- Evaluated factor efficacy employing techniques like WLS regression, Rank IC analysis, and a stratified back-testing approach
- Assembled a portfolio comprising 100 top-performing stocks from 2010-2020 based on factor strength, yielding a Sharpe ratio of 1.58 and an impressive annualized return of 14.90%

Ruixin Tiansuan Asset Management   **Beijing, CN**
Quantitative Research Intern   2021.01 – 2021.05
- Developed a portfolio risk management system using historical price data for market risk and borrower credit data for credit risk analysis
- Implemented Value at Risk (VaR) using Monte Carlo simulation to estimate potential portfolio losses with a 95% confidence level; integrated logistic regression models to predict credit card default probabilities with 92% accuracy

Morgan Stanley   **London, UK (remote)**
Sales & Trading Project Assistant (Fixed income)   2020.07 – 2020.08
- Conducted extensive analysis on interest rate derivatives, monitoring the realized volatility in U.S. rates to identify mean-reverting characteristics and potential trading opportunities, as suggested by market conditions in July.
- Developed and optimized trading strategies for various bond types, including TIPS, UST, and BTPs, while enhancing risk management by analyzing geopolitical impacts and economic policies to devise effective hedging strategies.

RESEARCH AND PROJECTS

Tiered Reasoning for Intuitive Physics (UM)   2023.09 – 2023.12
- Replicated the TRIP and FCGLI-HAR (Heuristic-Analytic Reasoning) model, focusing on critical information that caused conflicts to enhance coherent reasoning in physical commonsense tasks
- Utilized an attention-based classification method, with BERT for tokenizing stories, to predict story plausibility
- Applied prompt engineering to guide GPT models (like GPT-3.5 and GPT-4) in generating answers for tiered reasoning tasks by setting specific role-play and task-focused prompts, which enhanced the accuracy to 96.6% and consistency to 86.6%

Deep Learning in Asset Pricing (UM)   2023.09 – 2023.12
- Replicated a Stanford-developed deep learning model for asset pricing, utilizing FFN and LSTM networks to estimate the stochastic discount factor (SDF) from macroeconomic and firm-specific features based on no-arbitrage objective
- Applied Generative Adversarial Network (GAN) techniques to find test assets with the most pricing information
- Fine-tuned parameters and employed ensemble learning, enhancing Sharpe ratio to 2.6 and explaining 8% of stock variation

Consumer Sentiment Prediction Using Machine Learning (UM)   2023.01 – 2023.04
- Performed extensive data cleaning, Exploratory Data Analysis (EDA), and hyperparameter tuning, using visualizations like heatmaps to uncover patterns in the data, selecting key economic indicators as features
- Developed a predictive model for the Index of Consumer Sentiment (ICS) using Lasso regression, Random Forest, and XGBoost, optimized models through grid search and cross-validation, fine-tuning key parameters for maximum accuracy