Zihan Ni

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EDUCATION BACKGROUND

Central South University   Changsha , CHINA
Bachelor of Engineering，Major in **Artificial Intelligence**   Sept 2021 - Jun 2025
- **Average Score:** 80.87 / 100
- **Key Courses :**
  Data Structure, The Analysis & Design of Algorithms, Artificial Intelligence, Computational Intelligence, Biometric Recognition, Image Engineering, Deep Learning, Pattern Recognition and Machine Learning.

RESEARCH INTEREST

Generative AI, time-series analysis, and their application to sequential data such as audio and music.
Recently, I have also developed an interest in VLMs.

RESEARCH EXPERIENCE

Sequence Data Analysis and Prediction for the Secondary Market of Securities   Bachelor's Thesis

In my bachelor's thesis, I led a comprehensive research project on forecasting the SSE Index, which involved the full pipeline from data collection and preprocessing to model implementation and evaluation. I engineered a robust feature set (including RSI and MACD) from raw financial data and employed Random Forest for feature selection to reduce dimensionality and enhance interpretability. A comparative performance analysis was conducted across various Machine Learning (SVR, Random Forest) and Deep Learning models (LSTM, Transformer, 1D-CNN) for single-step forecasting, identifying key factors that affect model efficacy in high-noise financial environments. Furthermore, I proposed and conceptualized an advanced framework for multi-step forecasting that integrates NLP Technology to quantify the impact of macroeconomic news.

WORK EXPERIENCE

Newland Era Hi-Tech Co. , Ltd.   *Intern*   Aug 2024
- Position Held: Artificial Intelligence Engineer
- Contribution:
  As an AI Engineer in the Product Development Department at the AI and Computer Research Center, I contributed to building a prototype for an intelligent Q&A assistant in the healthcare domain. I owned the end-to-end process from data collection to system implementation: spearheaded the crawling and cleaning of data from public medical literature and authoritative health platforms to build a high-quality domain-specific corpus. Based on this, I applied LoRA for domain adaptation of the base LLM and integrated a Retrieval-Augmented Generation (RAG) framework with a vector database, enabling the assistant to generate responses grounded in the collected reliable knowledge, thereby significantly improving answer accuracy and factual reliability.

SKILLS & LANGUAGES

- **Programming Skills:** Python (Scikit-learn, Pandas, NumPy, etc.), C/C++, MATLAB
- **Frameworks & Tools:** PyTorch, TensorFlow, SQL, Git, Docker, LaTeX, Webots
- **Language:** Chinese (native), English (fluent, TOEFL 100), Japanese (reading and speaking)