Xuemeng Zhao

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EDUCATION

Rice University Aug. 2023 – Dec. 2024
Master of Computer Science

SKILLS

- Programming: **Python, SQL**, **Java**, **Pytorch**, **PySpark,** C/C++, MySQL, Hadoop, Git, AWS
- Technical: **Time series prediction** (ARIMA, RNN, LSTM, Transformer, Informer, Autoformer), **Deep learning** (ResNet), Machine Learning, **User behavior analysis**, **A/B testing**, **Causal inference**, Tableu

WORK EXPERIENCE

Amazon (Supply Chain Optimization Technology Team) Bellevue, WA, United States
Data Scientist Intern *(Python, SQL, Pytorch, Machine Learning, Deep Learning, AWS)* May. 2024 – Aug. 2024

- Amazon needed a more accurate method to recall more End-of-Life (EOL) products, which directly impacts inventory management and sourcing strategies.
- Redefined and evaluated the risk of the new ground truth for EOL products prediction.
- Developed a new **LSTM and XGBoost ensemble** model. Improved **54%** recall at the same precision level. Identified **75%** more EOL ASIN with over **99.8%** accuracy.
- Worked with **PM team** to assess positive business impact of the new model for Amazon order and inventory ecosystem.
- Collaborated with **SDE team** to plan shadow testing and Q4 production deployment.

TikTok Beijing, China
Data Scientist Intern *(Python, SQL, Pytorch, Machine Learning, AB Test, Causal Inference)* Aug. 2022 – Jun. 2023

Message Reach Channel Improvement Project

- Drove 2 message channel **performance analysis** for VP & cross-functional teams to point out current issues in our platform's unapproachable messages.
- Launched **funnel analysis** to identify possible reasons for the unapproachable message issues.
- Deployed **A/B testing** on different email formats. Used **SQL** to establish metric monitor system.
- Observed target metrics and made **significance test** for performance evaluation to decide which version online.

Recommendation System Project

- Used **four-quadrant analysis method** to analyze and score creators' and advertisers' behavior.
- Developed **scoring system** for advertisers to find more suitable creators for video-promotion on products.

Kwai Beijing, China
Data Scientist Intern *(Python, Spark SQL, MySQL, Pytorch, Deep Learning, Tableu)* Nov. 2021 - Feb. 2022

- Did regular data extract/transform/load (**ETL)**. Built **data pipeline** by **Python** and **SQL** for regularly use. Finished about **10** industry **analysis reports**.
- Deployed **LSTM** to predict marketing performance. Compared model results with real condition for abnormal monitoring.
- Established team daily **data monitor system**. Automatically produced **Hive** table partitions and data graphics.

North China Electric Power University Beijing, China
Research Assistant Sep. 2020 - Jun. 2023

Spatial-temporal Motion Capture Based on Adaptive Two-stream Methods for PV Power Prediction

- Used **Optical Flow** and **ResNet18** to capture cloud spatial-temporal motion in the satellite images.
- Established **Time Adaptive Sliding Window** to decide the size of satellite images on different time steps.
- Tested **ARIMA, SVR, LSTM** as baselines. Enhanced robustness and flexibility on **different weather condition.**
- Compared with LSTM, **MAE** decreased by **12%.** And, in non clear-sky conditions, decreased by **16%.**

PUBLICATION

- J. Yang; H. He; **Z Xuemeng**; et al., "Day-ahead PV Power Forecasting Model based on Fine-grained Temporal Attention and Cloud-coverage Spatial Attention," in **IEEE Transactions on Sustainable Energy** (Link)
- Cao, H.; Yang, J.; **Zhao, X**.; et al. Dual-Encoder Transformer for Short-Term Photovoltaic Power Prediction Using Satellite Remote-Sensing Data. **Appl. Sci. 2023, 13, 1908**. (Link)