Lei Qian

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Education

2023.9 − 2026.7 **M.S. in Data Science**, Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China
Advisor: Prof. Songxi Chen

2018.9 − 2023.7 **B.S. in Statistics**, School of Statistics, East China Normal University, Shanghai, China

Research Interests

Statistical Theory in Diffusion Model
Machine Learning and Statistics Learning Theory
Deep Learning Application

Working Experience

2022.1 − 2022.4 **Hellobike:** Algorithm Intern
- Extract data using Hive and Spark, calculate sample size, perform offline traffic segmentation, determine duration distribution for red envelope car earnings, evaluate earnings duration, and deploy online A/B testing via an internal platform.
- Apply DBSCAN for regional segmentation, establish difficulty models for regions, create multi-class user models and car-finding probability models based on regions, and integrate them into a car-finding difficulty strategy model.
- Utilize graph networks, filter edges and nodes using PR values and eigenvector centrality based on business rules, employ Infomap and Louvain for community detection and spectral clustering in a city, and complete community stability validation and subsequent in-community turnover earnings prediction models.

2021.1 − 2021.3 **IKE Data:** Algorithm Intern
- Conduct word segmentation tests using NLP libraries such as yltp and jieba, create a corpus, apply Word2Vec and K-means for clustering and visualization, and manually add stop words based on clustering results to maintain the corpus.
- In text classification, utilize TF-IDF and word embeddings for feature selection, employ TextCNN, achieving a final accuracy of 0.97.

Publications & Preprints

Published

[1] Mingze Sun, **Lei Qian**, Amitava Mukherjee, Dongdong Xiang. (2023). An EWMA chart for high dimensional process with multi-class out-of-control information via random forest learning. Quality Technology & Quantitative Management.

Honors & Awards

- Second Prize in the National University Mathematics Competition
- Second Prize in the National Student Mathematical Modelling Competition
- Merit Scholarship of East China Normal University

○ Merit Communist Youth League Cadres of East China Normal University

Skills

Programming: Python, R, C++, SQL, LaTeX
Language: Mandarin(native), English(CET-6 533)