Zixuan Yuan

Ph.D. Candidate
Department of Management Science and Information Systems
Rutgers, the State University of New Jersey

Mobile: +1 (973) 493-9108
Email: zy101@rutgers.edu
https://yuanzx33033.github.io/zixuan

RESEARCH INTERESTS

Data Mining and Artificial Intelligence with applications in Corporate Profiling, Quantitative Trading, Startup Investment, Urban Computing

EDUCATION

Ph.D., Information Technology, Department of MSIS, June 2022 (expected)
Rutgers, the State University of New Jersey
Advisors: Professor Hui Xiong (AAAS Fellow and IEEE Fellow)

M.S., Information Technology, Department of MSIS, January 2017
Rutgers, the State University of New Jersey
Advisors: Professor Hui Xiong (AAAS Fellow and IEEE Fellow)

B.S., Economics, Department of Economics, June 2015
Tongji University

SELECTED PUBLICATIONS[1]

Referred Journal Publications

1. Denghui Zhang, Yanchi Liu, **Zixuan Yuan**, Yanjie Fu, Haifeng Chen, and Hui Xiong. Multi-Faceted Knowledge-Driven Pre-Training for Product Representation Learning. IEEE Transactions on Knowledge and Data Engineering (**TKDE**), 2022.
2. Zekai Chen, Dingshuo Chen, Xiao Zhang, **Zixuan Yuan**, and Xiuzhen Cheng. Learning Graph Structures with Transformer for Multivariate Time Series Anomaly Detection in IOT. IEEE Internet of Things Journal (**IOTJ**), 2021.

Peer-Reviewed Conference Papers (* Equal Contribution)

1. Denghui Zhang*, **Zixuan Yuan***, Hao Liu, and Hui Xiong. Learning to Walk with Dual Agents for Knowledge Graph Reasoning. In Proceedings of the 36th AAAI Conference on Artificial Intelligence (**AAAI 2022**).
2. **Zixuan Yuan**, Hao Liu, Junming Liu, Yanchi Liu, Yang Yang, Renjun Hu, and Hui Xiong. Incremental Spatio-Temporal Graph Learning for Online Query-POI Matching. In Proceedings of the 28th World Wide Web Conference (**WWW 2021**).
3. **Zixuan Yuan**, Hao Liu, Renjun Hu, Denghui Zhang, and Hui Xiong. Self-Supervised Prototype Representation Learning for Event-Based Corporate Profiling. In Proceedings of the 35th AAAI Conference on Artificial Intelligence (**AAAI 2021**).
4. **Zixuan Yuan***, Hao Liu*, Yanchi Liu, Denghui Zhang, Fei Yi, Nengjun Zhu, and Hui Xiong. Spatio-Temporal Dual Graph Attention Network for Query-POI Matching. The 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR 2020**).
5. Shengming Zhang, Hao Zhong, **Zixuan Yuan**, and Hui Xiong. Scalable Heterogeneous Graph Neural Networks for Predicting High-potential Early-stage Startups. The 27th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD 2021**, Research Track).

[1] A more up-to-date list of publications is available at my homepage https://yuanzx33033.github.io/zixuan

6. Denghui Zhang, **Zixuan Yuan**, Yanchi Liu, Hao Liu, Zuohui Fu, Fuzhen Zhuang, Hui Xiong, and Haifeng Chen. Domain-Oriented Language Modeling with Adaptive Hybrid Masking and Optimal Transport Alignment. The 27th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD 2021**, Research Track).

Workshop Paper

1. **Zixuan Yuan***, Denghui Zhang*, Hao Zhong, Shengming Zhang, and Hui Xiong. AlphaVC: A Reinforcement Learning-based Venture Capital Investment Strategy. INFORMS Workshop on Data Science 2022.

Papers Under Review

1. **Zixuan Yuan**, Junming Liu, Haoyi Zhou, Denghui Zhang, Hao Liu, Nengjun Zhu, and Hui Xiong. LEVER: Online Adaptive Sequence Learning Framework for High-Frequency Trading. IEEE Transactions on Knowledge and Data Engineering (**TKDE**), 2022. [**Under major revision**]
2. **Zixuan Yuan**, Hao Liu, Haoyi Zhou, Denghui Zhang, Xiao Zhang, Hao Wang, Hui Xiong. Self-Paced Unified Representation Learning for Hierarchical Multi-Label Classification. In Proceedings of the 37th AAAI Conference on Artificial Intelligence (**AAAI 2023**). [**Under review**]
3. **Zixuan Yuan**, Hao Liu, Renjun Hu, Denghui Zhang, Peter Hafez, Xiaodong Lin, Hui Xiong. Interpretable Event-Driven Financial Forecasting with Online Knowledge Distillation. In Proceedings of the 37th AAAI Conference on Artificial Intelligence (**AAAI 2023**). [**Under review**]

Working Paper

1. **Zixuan Yuan**, Yada Zhu, Wei Zhang, Ziming Huang, Guangnan Ye, and Hui Xiong. Multi-Domain Transformer-Based Counterfactual Augmentation for Earnings Call Analysis. **Target Conference:** (**WWW 2023**).

Proposal Writing

1. EAGER: Collaborative Research: Substructure-aware Spatiotemporal Representation Learning
   PI: Dr. Hui Xiong
   - Role: Designed and wrote the methodology part that develops novel techniques to equip machines with automated and precision characterization with spatiotemporal networks.
   - Result: Submitted to National Science Foundation and was funded in 2020.
2. 2. IIS: Collaborative Research: Harnessing Big Data for improving Career Mobility
   PI: Dr. Hui Xiong
   - Designed and wrote the machine-learning pipeline that collects and analyzes academic curriculum and student career data, discovers useful patterns about college curriculum and students career development, studies students career choices, and develops sophisticated solutions to improve their career mobility.
   - Result: Submitted to National Science Foundation and was funded in 2020.

RESEARCH EXPERIENCE

IBM Research, NY, US June 2021 - Aug 2021
Data Science Researcher (Internship)

- Developed an interpretable transformer-based language model to precisely evaluate the future performance and market volatility of publicly-traded companies based on their textual information (e.g., earning calls).

RavenPack, NY, US Nov 2020 - Feb 2021
Data Science Researcher (Internship)
- Designed an explainable deep learning approach to perform the day-frequent trading in US and European stock markets by using NLP techniques to exploit market sentiments from corporate news events.

XQuant Company Ltd., Hangzhou, China February 2020 - May 2020
Data Science Researcher (Internship)
- *Project I: Corporate Profiling:* Assessed the evolving operational status of corporates from its event sequence, and constructed event-based corporate profile via self-supervised prototype learning paradigm.
- *Project II: T+0 Algorithmic Trading:* Developed an online adaptive sequential modeling algorithm for tick-level intra-day trading in Chinese stock market.

Baidu Research, Beijing, China May 2019 - August 2019
Data Science Researcher (Internship)
- Incorporated the incremental learning paradigm to shorten the application latency and adaptively study the evolving trip preference of Baidu Maps users.

Baidu Research, Beijing, China May 2018 - August 2018
Data Science Researcher (Internship)
- Implemented the spatiotemporal graph learning methods to provide dynamic and personalized query-POI matching criterions for Baidu Maps users.

TEACHING EXPERIENCE

Sole Instructor, Rutgers University - Newark, Summer 2022
- Course: "Production and Operations Management"
  Prepared and taught a lecture as well as quiz review sessions. Prepared and graded homework and exams. Mentored and evaluated teams of students throughout the class project and helped individual students with modeling and coding problems.

PROFESSIONAL ACTIVITIES

Session Chair
- The session AI-driven Business Analytics: New Advances and Applications at 2022 INFORMS annual meeting.

Program Committee Member
- The AAAI Conference on Artificial Intelligence (AAAI), 2023