

Ruidong Jin

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🏠 Age:28, Lanzhou



🎓 Education

Tokyo Institute of Technology

Oct. 2020 – Mar. 2024

Ph.D candidate Major in Artificial Intelligence

Tokyo, Japan

- Research interests: Graph Neural Networks (GNNs) and applications in modeling real-world graph-structured data and addressing predictive analytics.

Tokyo Institute of Technology

Oct. 2018 – Sept. 2020

Master of Engineering Major in Artificial Intelligence

Tokyo, Japan

Shanghai Jiao Tong University

Sept. 2014 – Jul. 2018

Bachelor of Engineering Major in Computer Science and Engineering

Shanghai, China

💼 Work Experience

National Institute of Advanced Industrial Science and Technology (AIST)

Oct. 2019 – Sept. 2023

Research Assistant (Internship) in [Artificial Intelligence Research Center](#)

Tokyo, Japan

- Conducting my research projects under the instructions of senior researchers.

🔧 Project Experience

Predicting Emergency Medical Service Demand in Tokyo Metropolis With Bipartite Graph Convolutional Networks

Oct. 2019 – Jan. 2021

- As a project leader, our team obtained more than 23,000 emergency records data from 900+ districts and 300+ hospitals in Tokyo within a month by cooperating with the Tokyo Metropolitan Fire Department. Then we collected the feature data of hospitals and regions involved in the dataset, and designed a Graph Neural Network model by Python and Pytorch. The developed GNN model was trained and tested on super-computers to analyze and predict the emergency needs between each pair of hospitals and regions. The prediction accuracy reaches 77.3%-87.7%, outperforming other mainstream graph neural network models and machine learning algorithms. This work was published as an international journal.
- I was responsible for data preprocessing and analysis, model conceptualization, program implementation, experiments, and paper writing.

Predicting Potential Real-Time Donations on Live Streaming Platforms via Continuous-Time Dynamic Graph

Feb. 2021 – Feb. 2023

- As the project leader, our team collected more than ten million real-time chat data from thousands of live streaming channels and viewers on YouTube live streaming platform, spanning one and a half years. Based on the collected data, we designed a dynamic graph neural network model by Python and Pytorch, which analyzes the interactions between users and streamers on the internet live streaming platform and predict the live streaming revenue of each live streaming channel. The prediction accuracy reaches 67.9%-91.6%, outperforming other mainstream dynamic graph neural network models. This work was published as an international journal paper and an international conference paper, as well as an oral presentation.
- I was responsible for prior investigation, problem conceptualization, methodology design, programming, data acquisition, model design and testing, visualization, and paper writing.

Predicting Popularity Trend in Social Media Networks with Multi-layer Temporal Graph Neural Networks

Mar. 2023 – Feb. 2024

- As a project leader, our team designed a multi-layer temporal heterogeneous graph neural network model by Python and Pytorch. The proposed model was assessed on four real-world datasets to predict the trend of popularity of users or topics in social media network platforms. The model can help to know the public concerns and interests in advance and provide better decisions in the future. The model prediction error is less than 2.8%, outperforming other mainstream dynamic graph neural network models. This work has been submitted to a international journal.
- I was responsible for prior investigation, problem conceptualization, methodology design, programming, data acquisition, model design and testing, visualization, and paper writing.

Publication

- [Ruidong Jin](#), Xin Liu, Tsuyoshi Murata, [Predicting Popularity Trend in Social Media Networks with Multi-layer Temporal Graph Neural Networks](#). Accepted by Complex & Intelligent Systems 2024 (IF: 5.80)
- [Ruidong Jin](#), Xin Liu, Tsuyoshi Murata, [Predicting Potential Real-time Donations in YouTube Live Streaming Services via Continuous-time Dynamic Graph](#), Machine Learning (2023). (IF: 7.25)
- [Ruidong Jin](#), Xin Liu, and Tsuyoshi Murata, [Predicting Potential Real-Time Donations in YouTube Live Streaming Services via Continuous-Time Dynamic Graph](#). In Discovery Science: 25th International Conference, DS 2022, Montpellier, France, October 10–12, 2022, Proceedings. Springer-Verlag, Berlin, Heidelberg, 59–73.
- [Ruidong Jin](#), T. Xia, X. Liu, T. Murata and K. -S. Kim, [Predicting Emergency Medical Service Demand With Bipartite Graph Convolutional Networks](#), in IEEE Access, vol. 9, pp. 9903-9915, 2021. (IF: 4.82)
- Ruoyu Deng, Na Ruan, [Ruidong Jin](#), et al, [SpamTracer: Manual Fake Review Detection for O2O Commercial Platforms by Using Geolocation Features](#). In: Guo, F., Huang, X., Yung, M. (eds) Information Security and Cryptology. Inscrypt 2018. Lecture Notes in Computer Science, vol 11449. Springer, Cham.

Awards

[Cross the border! Tokyo Tech Pioneering Doctoral Research Project](#) Oct. 2021 – Sept. 2023

- Research Incentives 1.8 million JPY/year
- Research Funds 400,000 JPY/year

[JASSO honor scholarship](#) Oct. 2018 – Mar. 2020

- 48,000 JPY/month

Chinese Undergraduate Mathematical Contest in Modeling 1st prize in Shanghai Area Sept. 2016

Skills

- Programming language: Python, C/C++, Java
- Data acquisition & processing: Python, Pandas
- Deep learning architectures: Pytorch, Tensorflow, NetworkX
- Training & testing deep learning models: Linux
- Visualization & paper writing: Plotly, matplotlib, $\text{\LaTeX}$
- Language: English - Frequent, Japanese - Frequent