

# Zheyuan (Jason) Zhang

✉ zzhang42@nd.edu

☎ +1 347 405 2093

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## Professional Experience

### Amazon, Inc.

Seattle, WA

Applied Scientist (Intern)

May. 2025 – Aug. 2025

- Research on developing a self-evolving multi-agent system for AIDE (Assitant for Intelligent Deep dive), an expert system designed to expedite deep-dive investigations for Payment Risk Machine Learning teams of Amazon.

### IBM Research

Yorktown Heights, NY

Student Researcher (Part-time)

Jun. 2024 – May. 2025

- Research on interpretable and trustworthy AI-driven systems using graph-based Retrieval Augmented Generation on health-care domains, which leads to the two publications of NGQA [1] and MOPI-HFRS [2].

### Coleridge Initiative, Inc.

New York, NY

Research Scientist

Oct. 2021 – Mar. 2023

- Lead the research project *Food for Thought*: using ML Methods to link food and nutrition databases on a security platform. Responsible for the toolkit and evaluation pipelines and communications between teams. Check [this blog](#) for the competition. Lead the *Unemployment Insurance* project, developing a real-time system to monitor the trend of unemployment rate for IL, IN, TN states.
- Lead the Data Team of Coleridge, responsible for all incoming data ingestion and ETL pipelines.

Associated Research Scientist

Aug. 2020 – Oct. 2021

- Responsible for the *Rich Context* project. This research project aims to identify and extract dataset mentions from full-text social science publications.
- Host the Kaggle Competition *Show US the data*. Responsible for establishing a benchmark for the competition along with technical implementation. A paper is accepted to Harvard Data Science Review [11].

Junior Research Scientist (Intern)

Oct. 2019 – Aug. 2020

- Work on KG completion and text entity extraction tasks for establishing a large-scale KG for *Rich Context* Competition.

### US Ignite, Inc.

New York, NY

Research Fellow (Intern)

Mar. 2020 – Aug. 2020

- Research on the Smart Monitor for Accelerating Regional Transformation project. Cooperate with senior research fellows to develop a recommendation system to help small business owners find better business locations.

## Selected Publications

[1] NGQA: A Nutritional Graph Question Answering Benchmark for Personalized Health-aware Nutritional Reasoning [ACL Main'25]

- Zheyuan Zhang, Yiyang Li, Nhi Ha Lan Le, Zehong Wang, Tianyi Ma, Vincent Galassi, Keerthiram Murugesan, Nuno Moniz, Werner Geyer, Nitesh V Chawla, Chuxu Zhang, Yanfang Ye

[2] MOPI-HFRS: A Multi-objective Personalized Health-aware Food Recommendation System with LLM-enhanced Interpretation [KDD'25]

- Zheyuan Zhang, Zehong Wang, Tianyi Ma, Varun Sameer Taneja, Sofia Nelson, Nhi Ha Lan Le, Keerthiram Murugesan, Mingxuan Ju, Nitesh V Chawla, Chuxu Zhang, Yanfang Ye

[3] Diet-ODIN: A Novel Framework for Opioid Misuse Detection with Interpretable Dietary Patterns [KDD'24]

- Zheyuan Zhang, Zehong Wang, Shifu Hou, Evan Hall, Landon Bachman, Vincent Galassi, Jasmine White, Nitesh V Chawla, Chuxu Zhang, Yanfang Ye

[4] LLM-Empowered Class Imbalanced Graph Prompt Learning for Online Drug Trafficking Detection [ACL Findings'25]

- Tianyi Ma, Yiyue Qian, Zehong Wang, Zheyuan Zhang, Chuxu Zhang, Yanfang Ye

[5] Neural Graph Pattern Machine [ICML'25]

- Zehong Wang, Zheyuan Zhang, Tianyi Ma, Nitesh V Chawla, Chuxu Zhang, Yanfang Ye

[6] Towards Graph Foundation Models: Learning Generalities Across Graphs via Task-trees [ICML'25]

- Zehong Wang, Zheyuan Zhang, Tianyi Ma, Nitesh V Chawla, Chuxu Zhang, Yanfang Ye

- [7] **Can LLMs Convert Graphs to Text-Attributed Graphs?** [NAACL Main'25]
  - Zehong Wang, Sidney Liu, **Zheyuan Zhang**, Tianyi Ma, Chuxu Zhang, Yanfang Ye
- [8] **SimMLP: Training MLPs on Graphs without Supervision** [WSDM'25]
  - Zehong Wang, **Zheyuan Zhang**, Chuxu Zhang, Yanfang Ye
- [9] **Computation Tree: A Transferable Pattern Towards Graph Foundation Models** [NeurIPS'24]
  - Zehong Wang, **Zheyuan Zhang**, Chuxu Zhang, Yanfang Ye
- [10] **Subgraph Pooling: Tackling Negative Transfer on Graphs** [IJCAI'24]
  - Zehong Wang, **Zheyuan Zhang**, Chuxu Zhang, Yanfang Ye
- [11] **Data inventories for the modern age? Using data science to open government data** [HDSR'22]
  - Julia Lane, Ernesto Gimeno, Ekaterina Levitskaya, **Zheyuan Zhang**, Alberto Zigoni

## Education

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| <b>University of Notre Dame</b><br><i>Ph.D. in Computer Science</i> <ul style="list-style-type: none"> <li>◦ <b>Research Directions:</b> LLM Agent Optimization, Retrieval Augmented Generation, Recommendation System.</li> </ul> | <i>South Bend, IN</i><br><i>Jul. 2023 – Present</i> |
| <b>New York University, M.S.</b>   | <i>Aug. 2019 – Aug. 2020</i>                        |
| <b>Wuhan University, B.E.</b> <ul style="list-style-type: none"> <li>◦ <b>Awards:</b> 1st Class Scholarship 2016 - 2018, Leijun Scholarship 2018</li> </ul>  | <i>Sept. 2015 – Jun. 2019</i>                       |

## Service

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- **Conference Program Committee:** KDD'25, WWW'25, ReIKDD'24, SDM'25
- **Journal Reviewer:** Transactions on Big Data, Transactions on the Web, Data Mining and Knowledge Discovery
- **Teaching Assistant:** FA23-CSE-40113, SP24-CSE-40113: Design/Analysis of Algorithms