Lijing Zhu

lijingz@bgsu.edu • Linkdin

Short Bio

Lijing Zhu holds a Ph.D. in Data Science from Bowling Green State University, specializing in data science, machine learning, and graph-based deep learning research. Passionate about both teaching and research, Zhu has designed and taught undergraduate courses, mentored graduate students, and published in peer-reviewed conferences. Committed to fostering an inclusive learning environment, Zhu aims to contribute to the advancement of data science education and research.

Teaching Experiences

Graduate Teaching Associates, Applied Statistics and Operations Research 2024 – Present

Bowling Green State University *Bowling Green, OH, United States*

- Delivered undergraduate courses on predictive analytics, focusing on statistical methodologies and machine learning models (e.g., simple linear regression) using Python and R.
- Designed engaging course materials and lab exercises to bridge theoretical concepts with real-world applications in business decision-making.

Math and Statistic Tutor, Learning Comments 2024 – Present

Bowling Green State University *Bowling Green, OH, United States*

- Provided one-on-one and group tutoring sessions to undergraduate students, covering fundamental mathematical and statistical concepts, including Linear Algebra and hypothesis testing.
- Developed tailored instructional strategies to address individual student learning needs, improving their comprehension and application of theoretical concepts to solve real-world problems.
- Fostered a supportive and inclusive learning environment, encouraging active participation and boosting student confidence in quantitative reasoning.

Education

Ph.D. in Data Science 2020 – 2025

Bowling Green State University *Bowling Green, OH, United States*

Master of Science in Analysis 2019 – 2020

Bowling Green State University *Bowling Green, OH, United States*

Business Analytics and Intelligence 2018 – 2019

Bowling Green State University *Bowling Green, OH, United States*

Work Experiences

Tenure-Track Assistant Professor, Data Science Program 2025 – Present

University of Houston–Clear Lake *Houston, TX, United States*

- Conduct research in machine learning, graph-based deep learning, continual knowledge graph learning, and model acceleration.
- Teach undergraduate and graduate courses in data science and mentor students in research and professional development.
- Provide service to the academic community as a reviewer for journals such as *IEEE Transactions on Artificial Intelligence*,

Graduate Research Assistance, Department of Computer Science 2021 – 2025

Bowling Green State University *Bowling Green, OH, United States*

- Implemented advanced knowledge graph embedding models to improve model adaptability and performance in Graph Representation Learning (GRL) and computer vision(CV) tasks.
- Mentored undergraduate and junior graduate students in research methodologies, project design, and experimental analysis.

Graduate Research Assistance, Office of Institutional Research 2020 – 2024

Bowling Green State University *Bowling Green, OH, United States*

- Developed predictive models using time series analysis and machine learning techniques (e.g., SVM, linear regression) to forecast university enrollment trends.
- Managed the university database, fulfilled data requests from various departments, and collaborated with external office staff to provide guidance on using interactive dashboards.
- Fostered cross-departmental collaboration to streamline data-driven strategies and support evidence-based academic planning.

Machine Learning Presenter, American View Institution 2020 – 2021
American View Institution *Washington, DC, United States*

- Developed and delivered a comprehensive video presentation for the American View Institution, summarizing mature machine learning algorithms commonly utilized in the field of remote sensing like regression and clustering algorithms. This project involved in-depth research and effective communication of complex technical concepts.

Active Research Directions

1. Machine Learning
2. Graph-Based Deep Learning

Selected Publications

1. Lijing Zhu, Qizhen Lan, Qing Tian, Wenbo Sun, Li Yang, Lu Xia, Yixin Xie, Xi Xiao, Tiehang Duan, Cui Tao, et al. Ett-ckge: Efficient task-driven tokens for continual knowledge graph embedding. In *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD)*, 2025
2. Dong Hyun Jeon, Lijing Zhu, Haifang Li, Pengze Li, Jingna Feng, Tiehang Duan, Houbing Herbert Song, Cui Tao, and Shuteng Niu. Leveraging vulnerabilities in temporal graph neural networks via strategic high-impact assaults. In *Proceedings of the 34th ACM International Conference on Information and Knowledge Management (CIKM)*, Boise, ID, USA, 2025. ACM. to appear
3. Xi Xiao, Wentao Wang, Jiacheng Xie, Lijing Zhu, Gaofei Chen, Zhengji Li, Tianyang Wang, and Min Xu. E2cb2former: Effective and explainable transformer for cb2 receptor ligand activity prediction. *Submitted to 2025 International Joint Conference on Neural Networks(IJCNN)*, 2025
4. Lijing Zhu, Dong Hyun Jeon, Wenbo Sun, Li Yang, Chloe Yinxin Xie, and Shuteng Niu. Flexible memory rotation (fmr): Rotated representation with dynamic regularization to overcome catastrophic forgetting in continual knowledge graph learning. *2024 IEEE International Conference on Big Data (Big Data), Accepted*, 2024
5. Xi Xiao, Rui Jiying, Jiacheng Xie, Lijing Zhu, Gaofei Chen, Zhengji Li, Tianyang Wang, and Min Xu. Hgtdp-dta: Hybrid graph-transformer with dynamic prompt for drug-target binding affinity prediction. *accepted by International Conference on Neural Information Processing(ICONIP) 2024*, 2024
6. Lijing Zhu, Qizhen Lan, Alvaro Velasquez, Houbing Song, Acharya Kamal, Qing Tian, and Shuteng Niu. Skghoi: Spatial-semantic knowledge graph for human-object interaction detection. In *2023 IEEE International Conference on Data Mining Workshops (ICDMW)*, pages 1186–1193. IEEE, 2023

Scholarships and Awards

A&S Dean NonRes, College of Arts and Sciences 2024 – 2025
Bowling Green State University *Bowling Green, OH, United States*

Data Science Department Scholarship, Data Science Ph.D. Program 2020 – 2024
Bowling Green State University *Bowling Green, OH, United States*

Services

1. Reviewer, npj Digital Medicine 2025–Present
2. Reviewer for IEEE Transactions on Artificial Intelligence 2023-Present
3. Reviewer for High-Confidence Computing 2024-Present

Skills

Tools and Languages Python, PyTorch, TensorFlow, Keras, Git, MMDetection, Numpy, SciPy, Scikit-Learn, R, SQL, Slurm, Docker, Spark, Hadoop, Tableau, PowerBI, LaTeX, Linux (Bash Shell Scripting), C++, JAVA

Research Expertise Continue Knowledge Graph Learning, Human-object Interaction Detection, Graph Representation, Nature language process, Model Acceleration, Machine Learning Modeling, Advanced Database Management, Anomaly Detection, High-Performance Computing