




Xiaobin Hong, Ph.D.

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Bio. I am a current PhD student at Nanjing University majoring in Computer Science and Technology. My research interests include *Graph Neural Networks*, *Graph Foundation Models*, *Time Series Analysis*, and *AI4Science*. As the first author, I have published two CCF A conference papers and one SCI Q1 journal article. I received the Excellent Master's Thesis Award from the Jiangsu Computer Society in 2022.

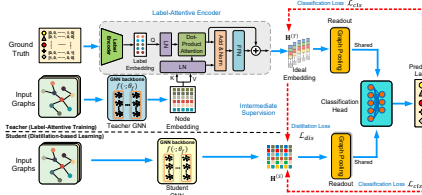


Education

- 2022 – Now  **Ph.D., Nanjing University (NJU)**, 985/211
Major: Computer Science and Technology.
Advisor: Wenzhong Li (<https://cs.nju.edu.cn/lwz/index.htm>).
Lab: State Key Laboratory for Novel Software Technology.
PhD mid-term assessment: **Outstanding**.
- 2018 – 2021  **M.Sc. Nanjing University of Science and Technology (NJUST)**, 211
Major: Computer Application Technology.
Advisor: Zhen Cui (<https://vgg-ai.cn/teachers/CuiZhen/>).
Lab: PCALab, Ministry of Education Key Laboratory.
GPA: 85.0/100 (**Top20%**).
- 2014 – 2018  **B.Sc. Anhui University (AHU)**, 211
Major: Computer Science and Technology.
GPA: 89.36/100, 3.83/5 (**Top15%**).

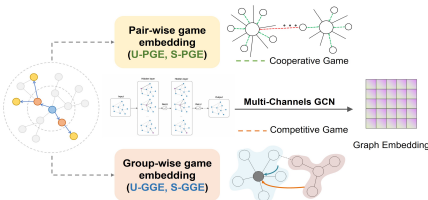
Research Experience

1. Label Attentive Distillation for GNN-Based Graph Classification, (AAAI 2024).



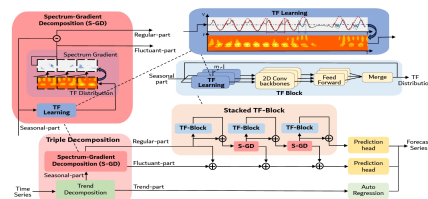
Conventional GNNs perform feature aggregation without considering graph-label information, which leads to the misaligned embedding problem that may jeopardize the graph classification performance. In this paper, we propose a novel label-attentive distillation method called LAD-GNN for graph representation learning. LAD-GNN can be incorporated with an arbitrary GNN to improve performance.

2. Graph Game Embedding, (AAAI 2022).



Inspired by game learning, we define nodes in the graph as players and links as interactions, and design a utility function that theoretically satisfies a Nash equilibrium to measure the player's benefit during the evolution of the graph. A collaboration and competition mechanism is introduced to increase the local and global discriminant learning ability under the paired and group two interaction settings.

3. TS3Net: Triple Decomposition with Spectrum Gradient for Long-Term Time Series Analysis, (ICDE 2024).



We proposed a novel triple decomposition method to decouple a long-term series into trend, regular, and fluctuant components. TS3Net introduces a temporal-frequency block to expand the series into a 2D temporal-frequency distribution for vision extraction. The decomposed components are processed by TS3Net individually, and their results are integrated to form the final result for time series analysis.

Projects

- 2020.01-2023.12 Deep Learning-based Resource Scheduling Optimization for Heterogeneous Wireless Networks, *National Natural Foundation of China*. Participant
- 2022.11-2027.10 Research on Intelligent Assessment Method of Economic Operation Situation of High-Dimensional Uncertainty Power System
Major Project of Basic Research on Frontier-led Technologies in Jiangsu Province. Participant

Research Publications

Conference Proceedings

- 1 **Xiaobin Hong**, Wenzhong Li, Chaoqun Wang, Mingkai Lin, and Sanglu Lu, "Label attentive distillation for gnn-based graph classification," in *Proceedings of the AAAI Conference on Artificial Intelligence*. (**AAAI 2024**), Vancouver, Canada, 2024, pp. 8499–8507.  URL: <https://ojs.aaai.org/index.php/AAAI/article/view/28693>.
- 2 **Xiaobin Hong**, Tong Zhang, Zhen Cui, and Jian Yang, "Graph game embedding," in *Proceedings of the AAAI Conference on Artificial Intelligence*. (**AAAI 2022**), pp. 7711–7720.  URL: <https://ojs.aaai.org/index.php/AAAI/article/view/16942>.
- 3 Xiangkai Ma, **Xiaobin Hong**, Wenzhong Li, and Sanglu Lu, "Ts3net: Triple decomposition with spectrum gradient for long-term time series analysis," in *2023 IEEE 40th International Conference on Data Engineering (ICDE 2024)*, IEEE, Utrecht Netherlands.
- 4 Chunyan Xu, Zhen Cui, **Xiaobin Hong**, Tong Zhang, and Jian Yang, "Graph inference learning for semi-supervised classification," in *International Conference on Learning Representations (ICLR 2020)*.
- 5 Xueya Zhang, Tong Zhang, **Xiaobin Hong**, Zhen Cui, and Jian Yang, "Graph wasserstein correlation analysis for movie retrieval," in *16th European Conference on Computer Vision (ECCV 2020)*, Springer.
- 6 **Xiaobin Hong**, Tong Zhang, Zhen Cui, Chunyan Xu, and Jian Yang, "Fast hyper-walk gridded convolution on graph," in *Pattern Recognition and Computer Vision: Third Chinese Conference, (PRCV 2020)*, Nanjing China, pp. 197–208.

Journal Articles

- 1 **Xiaobin Hong**, Tong Zhang, Zhen Cui, and Jian Yang, "Variational gridded graph convolution network for node classification," *IEEE/CAA Journal of Automatica Sinica*, vol. 8, no. 10, pp. 1697–1708, 2021.
- 2 Xiaoli Wang, Yongli Wang, Guanzhou Ke, Yupeng Wang, and **Xiaobin Hong**, "Knowledge distillation-driven semi-supervised multi-view classification," *Information Fusion*, p. 102 098, 2024.

Awards Experience

- 2024 Outstanding Midterm Assessment for Doctoral Students (**Top 15%**).
- 2023 AI4Science Technology Competition for Guangdong, Hong Kong and Macao 2023, **Second Prize**.
- 2022 Excellent Master's Thesis of Jiangsu Computer Society, (**Top 3%**).
- 2018 Graduates in good character of Anhui University, (**Top 5%**).

Skills

- Languages Strong reading and writing competencies in English.
- Coding Python, PyTorch, C/C++, R, \LaTeX , ...