XINYI WU

Curriculum Vitae (September 2023)

xinyiwu@mit.edu ◇ xinyiwu98.github.io

EDUCATION

Massachusetts Institute of Technology (MIT) — Cambridge, MA
Institute for Data, Systems and Society (IDSS) — 2020 —
PhD Program in Social & Engineering Systems

Washington University in St. Louis — St. Louis, MO
Bachelor of Arts in Mathematics, *Summa Cum Laude* — 2016 — 2020
Second major: Economics

RESEARCH INTERESTS

My main research interests include graph theory, dynamical systems, network science and machine learning. Recently I have been working on higher-order network modelling and analysis, and theory of graph representation learning.

PUBLICATIONS

3. **X. Wu**, A. Ajorlou, Z. Wu, A. Jadbabaie, "Demystifying Oversmoothing in Attention-Based Graph Neural Networks." *Proceedings of the 37th Conference on Neural Information Processing Systems (NeurIPS, **spotlight**)*, 2023.
2. **X. Wu**, Z. Chen, W. W. Wang, A. Jadbabaie, "A Non-Asymptotic Analysis of Oversmoothing in Graph Neural Networks." *Proceedings of the 11th International Conference on Learning Representations (ICLR)*, 2023.
1. **X. Wu**, A. Sarker, A. Jadbabaie, "Link Partitioning on Simplicial Complexes Using Higher-Order Laplacians." *Proceedings of the 22nd IEEE International Conference on Data Mining (ICDM)*, 2022.

HONORS

- IEEE ICDM Student Travel Award — 2022
- Michael Hammer Fellowship, MIT — 2020
- Phi Beta Kappa, Beta of Missouri at Washington University — 2020
- Highest Distinction in Mathematics, Washington University in St. Louis — 2020
- Distinction in Economics, Washington University in St. Louis — 2020
- Ross Middlemiss Prize in Mathematics, Washington University in St. Louis — 2020
- Brian Blank Prize in Mathematics, Washington University in St. Louis — 2019

PROJECTS

Research Collaboration with Liberty Mutual Group — Fall 2022 —

- Analyze network data associated with surety contracts to augment existing risk measures; report data-driven insights to key stakeholders

TEACHING

Instructor for MIT IDSS Math Camp — Summer 2023
TA for 1.022 Introduction to Network Models (MIT) — Fall 2021, Fall 2022, Fall 2023

SERVICE

Reviewer for ICLR 2024, NeurIPS 2023, PAKDD 2023

SKILLS

Programming

- Python, PyTorch, MATLAB, R, Java, C++, STATA, LaTeX

Languages

- English (fluent), Chinese (native), French (advanced)