

RESEARCH

My primary research goal is to solve real-world problems through advanced Generative AI systems capable of understanding, generating and reasoning with high-dimensional data across diverse modalities. With this goal in mind, I am currently working on **Generative Modeling**, including its theoretical exploration and various applications in data generation and multimodal learning

Specifically, I am working or highly interested in the following subjects:

- **2D & 3D Generation**
- **Scalable and Powerful Generative Models**
- **Robot Learning, Planning and Agent Learning upon Generative AI**
- **Alignment of Large Foundation Models (LLMs, VLMs)**
- **Multimodal Learning**
- Statistical learning and inference
- Graph representation learning
- Any interesting machine learning theory that can contribute to solving real-world problems

EDUCATION

The University of Texas at Austin Ph.D., Statistics and Data Sciences Advisor: Mingyuan Zhou	Austin, United States Aug 2025 -
Xidian University M.S., Information and Telecommunication Engineering Advisor: Bo Chen	Xi'an, China Sep 2021 - Jul 2024
Xidian University B.S., Electronic Information Engineering	Xi'an, China Sep 2017 - Jul 2021

EXPERIENCE

Purdue University Research Intern, RZ-Lab, Department of Computer Science Advisor: Ruqi Zhang	May 2024 - present
The University of Texas at Austin Research Intern, McCombs School of Business Advisor: Mingyuan Zhou	Oct 2022 - present

PUBLICATIONS (* denotes equal contribution)

Preprint

- [1] Xinyue Hu, Zhibin Duan, **Xinyang Liu**, Yuxin Li, Bo Chen, Mingyuan Zhou
Disentangled Generative Graph Representation Learning
ArXiv 2408.13471 (2024)

- [2] Chaojie Wang*, **Xinyang Liu***, Dongsheng Wang, Hao Zhang, Bo Chen, Mingyuan Zhou
Scalable Weibull Graph Attention Autoencoder for Modeling Document Relational Networks
ArXiv 2410.09696 (2024)

Conference and Journal Publications

- [3] Tiansheng Wen*, Yifei Wang*, Zequn Zeng, Zhong Peng, Yudi Su, **Xinyang Liu**, Bo Chen, Hongwei Liu, Stefanie Jegelka, Chenyu You
Beyond Matryoshka: Revisiting Sparse Coding for Adaptive Representation
Forty-Second International Conference on Machine Learning, (ICML 2025)
- [4] **Xinyang Liu***, Hengrong Du*, Wei Deng, Ruqi Zhang
Optimal Stochastic Trace Estimation in Generative Modeling
The 28th International Conference on Artificial Intelligence and Statistics, (AISTATS 2025)
- [5] **Xinyang Liu***, Yilin He*, Bo Chen and Mingyuan Zhou
Advancing Graph Generation through Beta Diffusion
The Thirteenth International Conference on Learning Representations, (ICLR 2025)
- [6] **Xinyang Liu***, Dongsheng Wang*, Bowei, Fang, Miaoge Li, Zhibin Duan, Yishi Xu, Bo Chen and Mingyuan Zhou
Patch-Prompt Aligned Bayesian Prompt Tuning for Vision-Language Models
Proceedings of the 40th Conference on Uncertainty in Artificial Intelligence, (UAI 2024)
- [7] Yishi Xu, Jianqiao Sun, Yudi Su, **Xinyang Liu**, Zhibin Duan, Bo Chen and Mingyuan Zhou
Context-guided Embedding Adaptation for Effective Topic Modeling in Low-Resource Regimes
Thirty-seventh Conference on Neural Information Processing Systems, (NeurIPS 2023)
- [8] Dongsheng Wang, Miaoge Li, **Xinyang Liu**, MingSheng Xu, Bo Chen and Hanwang Zhang
Tuning Multi-mode Token-level Prompt Alignment across Modalities
Thirty-seventh Conference on Neural Information Processing Systems, (NeurIPS 2023)
- [9] Miaoge Li*, Dongsheng Wang*, **Xinyang Liu**, Zequn Zeng, Ruiying Lu, Bo Chen and Mingyuan Zhou
PatchCT: Aligning Patch Set and Label Set with Conditional Transport for Multi-Label Image Classification
The IEEE/CVF International Conference on Computer Vision, (ICCV 2023)
- [10] Zhibin Duan*, **Xinyang Liu***, Yudi Su, Yishi Xu, Bo Chen and Mingyuan Zhou
Bayesian Progressive Deep Topic Model with Knowledge Informed Textual Data Coarsening Process
In the 40th International Conference on Machine Learning, (ICML 2023)

OPEN SOURCE PROJECT

- **PyDPM** (core contributor, 175 stars)
A python library focuses on constructing Deep Probabilistic Models (DPMs).

Sep 2022 - Feb 2024

AWARDS AND HONORS

- **The University-Level First-Class Graduate Scholarship**, Xidian University 2023
- **The University-Level Second-Class Graduate Scholarship**, Xidian University 2023
- **Bronze Medal**, The 2019 ICPC Asia-East Continent Final, Xi'an 2019
- **Bronze Medal**, The 2019 ICPC Asia Regional Contest, Yinchuan Site 2019
- **Silver Medal**, The 2019 ICPC China Shaanxi Provincial Programming Contest 2019
- **1st Prize (9/325)**, The 17th Programming Contest of Xidian University 2019

PROFESSIONAL SERVICES

- **Conference Reviewer:** NeurIPS (2024), ICML (2024, 2025), CVPR (2024), ICLR (2025), AISTATS (2025)