

RESEARCH

My primary research goal is to solve practical 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 multi/cross-modal learning

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

- **Diffusion Models**
- **Alignment of Large Foundation Models (LLMs, VLMs)**
- **Generative Modeling in robot learning (very interested), decision making and AI4Science.**
- Statistical learning and inference
- Graph representation learning.
- Any interesting machine learning theory that can apply to solving practical problems.

EDUCATION

Xidian University

M.S., Department of Electronic Engineering

Advisor: [Bo Chen](#)

Xi'an, China

Sep 2021 - Jul 2024

Xidian University

B.S., Department of Electronic 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

Advisor: [Mingyuan Zhou](#)

Oct 2023 - present

PUBLICATIONS (* denotes equal contribution)

Preprint

- [1] **Xinyang Liu***, Hengrong Du*, WeiDeng, Ruqi Zhang
Optimal Stochastic Trace Estimation in Generative Modeling
Under review. (2024)
- [2] **Xinyang Liu***, Yilin He*, Bo Chen and Mingyuan Zhou
Advancing Graph Generation through Beta Diffusion
ArXiv 2406.09357 (2024)

- [3] Xinyue Hu, Zhibin Duan, **Xinyang Liu**, Yuxin Li, Bo Chen, Mingyuan Zhou
Disentangled Generative Graph Representation Learning
 ArXiv 2408.13471 (2024)
- [4] 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

- [5] **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)
- [6] 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)
- [7] 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)
- [8] 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)
- [9] 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)
 A python library focuses on constructing Deep Probabilistic Models (DPMs) Sep 2022 - Feb 2024

AWARDS AND HONORS

- **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
- **Scientific and Technological Progress Scholarship**, Xidian University 2018

PROFESSIONAL SERVICES

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