

## RESEARCH

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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**
- **Vision-Language Models**
- **Generative Modeling in robot learning (very interested), decision making and reasoning.**
- Statistical learning and inference
- Graph representation learning.
- Any interesting machine learning theory that can apply to solving practical problems.

## EDUCATION

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### **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

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### **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)

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### 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

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- **PyDPM** (core contributor)  
 A python library focuses on constructing Deep Probabilistic Models (DPMs) Sep 2022 - Feb 2024

## AWARDS AND HONORS

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- **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

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