# Xinyang Liu

Email: xinyangATK@gmail.com
Homepage: xinyangATK.github.io


## 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 working on **Generative Modeling**, including its theoretical exploration and various applications in data generation and multimodal learning

I am currently exploring all dimensions of **diffusion Large Language Models (dLLMs)**, including foundation-model design, inference acceleration, and post-training for downstream tasks.

## Education

**The University of Texas at Austin** — Austin, United States
Ph.D., Statistics and Data Sciences — Aug 2025 -
Advisor: Mingyuan Zhou

**Xidian University** — Xi'an, China
M.S., Information and Telecommunication Engineering — Sep 2021 - Jul 2024
Advisor: Bo Chen

**Xidian University** — Xi'an, China
B.S., Electronic Information Engineering — Sep 2017 - Jul 2021

## Experience

**Purdue University**
Research Intern, RZ-Lab, Department of Computer Science — May 2024 - Sep 2025
Advisor: Ruqi Zhang

**The University of Texas at Austin**
Research Intern, McCombs School of Business — Oct 2022 - Sep 2025
Advisor: Mingyuan Zhou

## Publications (* denotes equal contribution)

### Preprint

[1] Tiansheng Wen, Yifei Wang, Aosong Feng, Long Ma, **Xinyang Liu**, Yifan Wang, Lixuan Guo, Bo Chen, Stefanie Jegelka, Chenyu You
**Route Experts by Sequence, not by Token**
ArXiv:2511.06494 **(2025)**

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

[3] Chaojie Wang*, **Xinyang Liu***, Dongsheng Wang, Hao Zhang, Bo Chen, and Mingyuan Zhou
**Scalable Weibull Graph Attention Autoencoder for Modeling Document Relational Networks**

ArXiv 2410.09696 **(2024)**

### Conference and Journal Publications

[4] Haoyang Zheng, **Xinyang Liu**, Xiangrui Kong, Nan Jiang, Zheyuan Hu, Weijian Luo, Wei Deng, and Guang Lin
**Ultra-Fast Language Generation via Discrete Diffusion Divergence Instruct**
The Fourteenth International Conference on Learning Representations, **(ICLR 2025)**

[5] Tiansheng Wen*, Yifei Wang*, Zequn Zeng, Zhong Peng, Yudi Su, **Xinyang Liu**, Bo Chen, Hongwei Liu, Stefanie Jegelka, and Chenyu You
**Beyond Matryoshka: Revisiting Sparse Coding for Adaptive Representation**
**Oral Presentation [Top 1%]**
Forty-Second International Conference on Machine Learning, **(ICML 2026)**

[6] **Xinyang Liu***, Hengrong Du*, Wei Deng, and Ruqi Zhang
**Optimal Stochastic Trace Estimation in Generative Modeling**
The 28th International Conference on Artificial Intelligence and Statistics, **(AISTATS 2025)**

[7] **Xinyang Liu***, Yilin He*, Bo Chen and Mingyuan Zhou
**Advancing Graph Generation through Beta Diffusion**
The Thirteenth International Conference on Learning Representations, **(ICLR 2025)**

[8] **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)**

[9] 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)**

[10] 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)**

[11] 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)**

[12] 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**) Sep 2022 - Feb 2024
  A python library focuses on constructing **D**eep **P**robabilistic **M**odels **(DPMs)**.

## 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, 2025), ICLR (2025), AISTATS (2025), AAAI (2025)

## Teaching Experience

- **ELEMENTS OF REGRESSION ANALYSIS** Spring 2026
- **INTRO TO PROBABIL & STATISTICS** Fall 2025