Xinyang Liu

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Research Interests

My primary research goal is to solve practical problems or to provide inspiration for future study and develop methods that are both accessible and effective. With this goal in mind, I am currently working on **Generative Modeling** and **Representation Learning** as well as their applications in image generation, text analysis, graph learning and transfer learning.

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

- **Diffusion model** and its application on downstream tasks.
- Prompt learning and cross-modal learning with pretrain models.
- Topic modeling.
- Graph representation learning.
- Few-shot learning and domain adaption.
- Optimal theory and its application in machine learning.
- Any interesting machine learning theory that can apply to solving practical problems.

Education

Xidian University — Xi'an, China
M.S., Department of Electronic Engineering — Sep 2021 - Present
Advisor: Prof. Bo Chen

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

Projects

- **PyDPM** (core contributor) — Sep 2022 - Present
  A python library focuses on constructing **D**eep **P**robabilistic **M**odels **(DPMs)**

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

Publications (* denotes equal contribution)

Preprint

[1] Yilin He*, **Xinyang Liu***, Bo Chen and Mingyuan Zhou
Advancing Graph Generation through Beta Diffusion
under review **(2024)**

Conference and Journal Publications

[2] **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)**

[3] 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)**

[4] 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)**

[5] 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)**

[6] 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)**