Haotian Xue

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Education

2018 – 2022 **B.E. @ Computer Science, Shanghai Jiao Tong University**, Shanghai
Advisor: *Quanshi Zhang, Zhouhan Lin*

2022 – 2024 (expected) **M.S. @ Computer Science, Georgia Tech**, Atlanta
Advisor: *Yongxin Chen*

2022 – 2027 (expected) **Ph.D. @ Machine Learning, Georgia Tech**, Atlanta
Advisor: *Yongxin Chen*

Employment History

2021.9 – 2021.12 **Research Intern,** Microsoft Research Asia
Advisor: *Lei Cui*
Project: *Large pretraining for document AI*

2021.9 – 2022.12 **Visiting Research Intern,** MIT CSAIL
Advisor: *Josh Tenenbaum*
Mentor: *Yunzhu Li, Fish Tung*
Project: *3D Intuitive Physics*

2022.9 – Present **Graduate Research Assistant,** Georgia Tech
Advisor: *Yongxin Chen*
Project: *Generative Models*

2024.5 - 2024.8 **Research Intern,** Nvidia Research
Manager: *Ming-yu Liu*
Advisor: *Jason(Yao) Lu, Jinwei Gu, Jiaojiao Fan*
Project: *Generative AI for Embodied Intelligence*

Research Interest

** I am interested in the broad aspects of machine learning and computer vision.
** Currently I am interested in **generative AI** (e.g. image/video diffusion models) and **generalized embodied AI** (e.g. multi-modal large language models, diffusion policy). I have some projects ongoing, working on new model structure for image/video diffusion models, and generalized policy learning via strong VLMs.
** I am also interested in general aspect of safey and robustness for generative models. I have a few publications in the related fields.

Machine Learning Conference Papers

*** indicate equal contribution**

1. Y. Chen*, **H. Xue***, and Y. Chen, "Diffusion policy attacker: Crafting adversarial attacks for diffusion-based policies," *NeurIPS*, 2024.
2. J. Fan, **H. Xue**, Q. Zhang, and Y. Chen, "Refdrop: Controllable consistency in image or video generation via reference mixing attention," *NeurIPS*, 2024.

3. A. Mete, **H. Xue**, A. Wilcox, Y. Chen, and A. Garg, "Quest: Self-supervised skill abstractions for continuous control," *NeurIPS*, 2024.
4. **H. Xue**, C. Liang*, X. Wu*, and Y. Chen, "Towards effective protection against diffusion-based mimicry through score distillation," *ICLR*, 2024.
5. **H. Xue**, A. Araujo, B. Hu, and Y. Chen, "Diffusion-based adversarial sample generation for improved stealthiness and controllability," *NeurIPS*, 2023.
6. **H. Xue**, A. Torralba, J. Tenenbaum, D. Yamins, Y. Li, and H. Tung, "3d-intphys: Towards more generalized 3d-grounded visual intuitive physics under challenging scenes," *NeurIPS*, 2023.
7. S. Hou*, J. Kai*, **H. Xue***, *et al.*, "Syntax-guided localized self-attention by constituency syntactic distance," *EMNLP Findings*, 2022.

Other Preprints / Ongoing Project

*** indicate equal contribution**

1. **H. Xue** and Y. Chen, *Pixel is a barrier: Diffusion models are more adversarially robust than we think*, 2024.
2. S. Hou, J. Kai*, Y. Zhang*, **H. Xue***, X. Wang, and Z. Lin, *Learning to adaptively incorporate external syntax through gated self-attention*, 2022.
3. X. Cheng, X. Wang*, **H. Xue***, Z. Liang, and Q. Zhang, *A hypothesis for the aesthetic appreciation in neural networks*, 2021.
4. H. Zhang, **H. Xue**, J. Chen, Y. Chen, W. Shen, and Q. Zhang, *Evaluation of attribution explanations without ground truth*, 2021.

Skills

Coding	Python, C++, LaTeX, Pytorch, FairSeq, Numpy, Gym, HTML, CSS
Miscs	Piano, Football, Film, MOBA

Academic Services

Reviewer for ICML2022,2023,2024; NeurIPS2022,2023,2024;ICLR 2024,2025; AISTATS 2025

Awards

2019	Singapore Tech Engineering Scholarship (Top 10%)
2019-2022	SJTU Zhiyuan Honor Award(Top 5%)
2022	SJTU Outstanding Graduate
2023	NeurIPS Scholar Award
2024	ICLR Travel Award