

Hanling Tian

Master student, Shanghai Jiao Tong University, Shanghai, China
Supervisor: Prof. Xiaolin Huang
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TECHNICAL CAPABILITY

Research interest: Machine Learning, Memorization, Trustworthy AI, Generative models

Programming: Python, Pytorch

EDUCATION

Shanghai Jiao Tong University, Shanghai, China 09 2023 — 03 2026
Master student in Automation Science and Engineering GPA: 3.83/4.00

Xi'an JiaoTong University, Xi'an, China 09 2019 — 06 2023
Bachelor of Engineering: Automation GPA: 4.11/4.30, Average Grade: 94.15/100, Rank: 1/191
Outstanding Graduate: Xi'an Jiaotong Univeristy 2023
National Scholarship (0.2%): Ministry of Education, the People's Republic of China 2020

PUBLICATIONS

Featured Publications

H. Tian, Y. Liu, M. He, Z. He, Z. Huang, R. Yang & X. Huang (2025). Simulating Training Dynamics to Reconstruct Training Data from Deep Neural Networks. ICLR 2025. <https://openreview.net/forum?id=ZJftXKy12x>

- Reconstructing training dataset from parameters of trained DNNs indicates memorization of data within DNNs.
- We consider trained parameters as accumulation of gradients throughout the dynamical training process.
- We formulate dataset reconstruction into a high-level gradient inversion attack.
- We propose SimuDy to successfully reconstruct training data from a trained ResNet's parameters for the first time.
- We show that indeed there is memorization in DNNs, providing a promising tool for investigating deep learning memory.
- Code is available at <https://github.com/BlueBlood6/SimuDy>.

Collaborative Publications

M. He, R. Yang, **H. Tian**, Y. Qiu & X. Huang (2025). **Primphormer: Efficient Graph Transformers with Primal Representations.** Under Review at ICML 2025.

- We propose an efficient graph Transformer via the primal-dual relationship of kernel methods.
- We theoretically evaluate the universal approximation property and expressivity of our efficient graph Transformers.

D. Huang, J. Guo, S. Sun, **H. Tian**, J. Lin, Z. Hu, C. Lin, J. Lou & D. Zhang (2023). **A Survey for Graphic Design Intelligence.** ArXiv. <https://arxiv.org/pdf/2309.01371>.

- We provide a systematic overview of graphic design, categorized into representation, understanding and generation.
- We consider related works for individual visual elements as well as the overall design composition.

PROFESSIONAL EXPERIENCE

Microsoft Research Asia (MSRA), Beijing, China 07 2022 — 06 2023
Intern of Data, Knowledge, and Intelligence Group. Mentor: Shizhao Sun

Pre-training of Graphic Layout Generation

- Processed layout data by converting elements into attribute-representing tokens, transforming layouts into sequences.
- Designed BERT-like mask strategies using Web UI layout data to pre-train a transformer-based model.
- Fine-tuned the model on various downstream tasks to evaluate pre-training performance.

Design Image Generation with Text Constrains

- Processed design images in PPT format by extracting text-only and text-free versions.
- Modified Stable Diffusion's attention score maps to inject text-only images as constraints.
- Trained Stable Diffusion model to generate design images given text-only images and corresponding prompts.