

Jiawei Zhang

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🎓 Education

Tsinghua University, Department of Electronic Engineering Aug. 2023 – Present

Ph.D. Student in Information and Communication Engineering, Advisor: Prof. Yuantao Gu

Research Interests: Generative Modeling, Diffusion Models, Model Distillation

Tsinghua University, Department of Electronic Engineering Aug. 2019 – Jun. 2023

B.Eng. in Electronic Engineering

GPA: 3.94 / 4.00

📁 Research Experience

Ant Research — Research Intern Dec. 2025 – Present

- Led an end-to-end research project on **one-step image generation**, distilling Diffusion Transformers in the latent space of Representation Autoencoders (RAEs).
- Developed a one-step distillation method based on Drifting Models, achieving an FID of 1.48 on ImageNet.
- Conducted distributed training with PyTorch and FSDP.

Tencent Hunyuan — Research Intern Jun. 2025 – Aug. 2025

- Investigated **diffusion distillation** for efficient image editing based on FLUX Kontext.
- Evaluated Consistency Models followed by DMD2 for few-step distillation.

Tsinghua University — Ph.D. Research Aug. 2023 – Present

- Developed diffusion-based inference methods for Bayesian inverse problems.
- Proposed learnable extrapolation for **few-step** diffusion-based inverse problem solvers and a stage-wise framework for dynamically navigating the distortion–perception trade-off.
- Research resulted in three first-author papers at **NeurIPS 2024**, **NeurIPS 2025**, and **ICML 2026**.

📖 Selected Publications

- **Jiawei Zhang**, Mengfei Xia, Gen Li, and Yuantao Gu. Distilling Drifting Transformers with Representation Autoencoders. *arXiv:2606.15553*.
- **Jiawei Zhang**, Ziyuan Liu, Leon Yan, Zhenyu Xiao, and Yuantao Gu. Stage-wise Distortion–Perception Traversal in Zero-shot Inverse Problems with Diffusion Models. *ICML 2026*.
- **Jiawei Zhang**, Ziyuan Liu, Leon Yan, Gen Li, and Yuantao Gu. Improving Diffusion-based Inverse Algorithms under Few-Step Constraint via Learnable Linear Extrapolation. *NeurIPS 2025*.
- **Jiawei Zhang**, Jiaxin Zhuang, Cheng Jin, Gen Li, and Yuantao Gu. Unleashing the Denoising Capability of Diffusion Prior for Solving Inverse Problems. *NeurIPS 2024*.
- **Jiawei Zhang**, Cheng Jin, and Yuantao Gu. Adaptive Polyak Step-Size for Momentum Accelerated Stochastic Gradient Descent with General Convergence Guarantee. *IEEE Transactions on Signal Processing*.
- **Jiawei Zhang**, Yufan Chen, Cheng Jin, Lei Zhu, and Yuantao Gu. EPA: Neural Collapse Inspired Robust Out-of-Distribution Detector. *ICASSP 2024*.

⚙️ Technical Skills

Programming & Frameworks: Python, PyTorch, Hugging Face Diffusers, FSDP

Expertise: Diffusion & Flow Models, Generative Model Distillation, Few-step / One-step Generation

🏆 Selected Honors & Awards

- National Scholarship for Graduate Students, 2025
- Tsinghua Future Scholar Fellowship, 2023–2028
- Outstanding Graduate of Beijing Municipality & Tsinghua University, 2023
- National Scholarship for Undergraduate Students, 2022