YIFEI WANG

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EDUCATION

Peking University   Sep. 2021 – Jun. 2025 (Expected)
B.S. in Artificial Intelligence, Honors Program   *Beijing, China*

· *GPA*: 3.70/4.00
· *Relevant Coursework*: Convex Optimization (A), Generative Models (A), Computer Network (Honors Track, A), Natural Language Processing (A), Computer Vision (A-), Stochastic Calculus (A-)

RESEARCH EXPERIENCE

Learning Generative Models from Corrupted Data   May. 2023 – Present
Supervised by Prof. He Sun & Prof. Wenzheng Chen at Peking University   *Beijing, China*

· Developed an iterative approach using **amortized inference** and **expectation-maximization algorithm** to train clean diffusion models as data priors.
· Achieved superior performance compared to baseline models learned from noisy data on **natural images**.
· Implemented the codebase of a **conditional normalizing flow model** from scratch, and integrated its training step with a diffusion model using amortized inference loss.
· Proposed and tested **custom weighting schedules** for the E-step and the M-step of the diffusion model, resulting in significant improvement in generated results.

Finetuning Diffusion Models Using RLHF Losses   May. 2024 – Oct. 2024
Supervised by Prof. Qing Qu at University of Michigan   *Beijing, China*

· Researching on the effect of **reinforcement learning from human feedback(RLHF)** losses on finetuning pretrained diffusion models.
· Reproduce previous work such as **direct preference optimization(DPO)** and review the mathematical deductions.
· Adapting Huggingface's Diffusers code studied the effect of different RLHF losses on diffusion models.

PUBLICATIONS

Weimin Bai, **Yifei Wang**, Wenzheng Chen and He Sun. *An Expectation-Maximization Algorithm for Training Clean Diffusion Models from Corrupted Observations*. **NeurIPS 2024**, Preprint on arXiv.

Yifei Wang, Weimin Bai, Weijian Luo, Wenzheng Chen and He Sun. *Integrating Amortized Inference with Diffusion Models for Learning Clean Distribution from Corrupted Images*. **In submission**, Preprint on arXiv.

HONORS AND AWARDS

Academic Excellence Award (Top 10%)   Sep. 2024
Outstanding Freshman Scholarship – 1st Prize (Top 1%)   Sep. 2021

SKILLS AND INTERESTS

Programming: Proficient in Python (PyTorch, Machine Learning), C/C++, LaTeX; Familiar with CUDA
Languages: Chinese (Native), English (Fluent, TOEFL 106)
Interests: Marathon Running.