

# YIFEI WANG

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## EDUCATION

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### Peking University

*B.S. in Artificial Intelligence, Honors Program*

Sep. 2021 – Jun. 2025 (Expected)

*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

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### Learning Generative Models from Corrupted Data

*Supervised by Prof. He Sun & Prof. Wenzheng Chen at Peking University*

May. 2023 – Present

*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.

### Efficient Algorithms for Secure LLM Inference

*Supervised by Prof. Meng Li at Peking University*

Aug. 2024 – Present

*Beijing, China*

- Researching on **accelerating large language model (LLM)** inference under **privacy-preserving** settings by approximating nonlinear functions (e.g. GeLU, softmax, layernorm) with polynomial functions and fine-tuning the model using **low-rank adaptation (LoRA)** for improved computational efficiency.
- Conducting extensive evaluations of baseline approximation techniques for nonlinear functions on **sentence generation** and **sequence classification** tasks using datasets such as Wikitext and Winogrande.
- Adapting Huggingface's Llama code and replacing the nonlinear functions with polynomial approximations for efficient training while maintaining model performance.

## PUBLICATIONS

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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

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Academic Excellence Award (Top 10%)

Sep. 2024

Outstanding Freshman Scholarship – 1st Prize (Top 1%)

Sep. 2021

## SKILLS AND INTERESTS

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**Programming:** Proficient in Python (PyTorch, Machine Learning), C/C++,  $\text{\LaTeX}$ ; Familiar with CUDA

**Languages:** Chinese (Native), English (Fluent, TOEFL 106)

**Interests:** Marathon Running, Blogging (50k+ page views and 5k+ stars)