# WENYI MO

E-mail: mowenyi@ruc.edu.cn | Phone: (86)15815489499 | Homepage | Google Scholar

## EDUCATION

**Renmin University of China** — Beijing, China
*M.S. in Artificial Intelligence* — *Sep. 2022 – Jun. 2025 (Expected)*
- Advisor: Prof. Bing Su.

**South China University of Technology** — Canton, China
*B.E. in Computer Science* — *Sep. 2018 – Jun. 2022*
- GPA: 3.91 / 4.0; Rank: 3 / 169

## RESEARCH INTERESTS

My research interests focus on **generative models** and **human preference alignment**.

## PUBLICATIONS

**Uniform Attention Maps: Boosting Image Fidelity in Reconstruction and Editing**
*Proc. IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), Tucson, USA* *Feb. 28 - Mar. 4, 2025*
- **Wenyi Mo**, Tianyu Zhang, Yalong Bai, Bing Su, Ji-Rong Wen

**Dynamic Prompt Optimizing for Text-to-Image Generation**
*Proc. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), Seattle, USA* *Jun. 16 - 20, 2024*
- **Wenyi Mo**, Tianyu Zhang, Yalong Bai, Bing Su, Ji-Rong Wen, Qing Yang
- [paper] [code]

**MetaMask: Revisiting Dimensional Confounder for Self-Supervised Learning**
*Proc. Advances in Neural Information Processing Systems (NeurIPS), New Orleans, USA,* ***Spotlight*** *Nov. - Dec. , 2022*
- Jiangmeng Li, Wenwen Qiang, Yanan Zhang, **Wenyi Mo**, Changwen Zheng, Bing Su, and Hui Xiong.
- [paper] [code]

**Supporting Vision-Language Model Inference with Causality-pruning Knowledge Prompt**
*Arxiv Preprint.* *2024*
- **Wenyi Mo***, Jiangmeng Li*, Wenwen Qiang, Bing Su, and Changwen Zheng.
- [paper] [code]

## RESEARCH EXPERIENCE

**Research Intern** — Mar. 2024 – Present
*University of California, Santa Cruz* — *Remote*
- Supervisor: Prof. Cihang Xie
- Research focus: Vision-Language Learning

**Research Intern** — Jan. 2024 – Mar. 2024
*ByteDance, Applied Machine Learning Group* — *Shanghai, China*
- Supervisor: Dr. Yongfei Liu
- Research focus: Controlled Image Generation

**Research Intern** — Sep. 2024 – Jan. 2024
*Du Xiaoman Technology* — *Beijing, China*
- Supervisor: Dr. Yalong Bai
- Research focus: Text-to-Image with Diffusion Model

## PROJECTS

**Prompt Optimizing for Text-to-Image Generation** Sep. 2024 – Jan. 2024

- Proposed the Prompt Auto-Editing (PAE) method to dynamically optimize text prompts in text-to-image generation using reinforcement learning.
- Introduced a two-stage training process: initial fine-tuning followed by online reinforcement learning to automatically adjust prompt modifiers, effect ranges, and weights.
- Outperformed baseline methods on multiple datasets, with significant improvements in Aesthetic Score, CLIP Score, and PickScore. Achieved an Aesthetic Score of 6.12 (an increase of 0.11 over the baseline) and a PickScore of 73.9%, surpassing human-written prompts by 1.4%.

**Image Reconstruction and Editing using diffusion model** Jan. 2024 - Sep. 2024

- Developed a tuning-free image editing method that enhances image reconstruction fidelity in diffusion-based models using uniform attention maps.
- Proposed an adaptive mask-guided editing technique to ensure consistency and precision during editing tasks.
- Achieved notable improvements in reconstruction on the CelebA-HQ dataset, with a PSNR of 26.97 and a reduced LPIPS of $57.29 \times 10^{-3}$. On the PIE benchmark, demonstrated a 12.4% improvement in background consistency and a 10.2% enhancement in editing accuracy for target areas.

## SELECTIVE SCHOLARSHIPS AND AWARDS

- **China National Scholarship:** Awarded to the top ***1%*** in the School of Computer Science. 2019
- **China National Encouragement Scholarship:** Awarded to the top ***3%*** in the School of Computer Science. 2021
- **Renmin University of China Scholarship**, 2024

## TEACHING EXPERIENCES

- Teaching Assistant: RUC, Comprehensive Artificial Intelligence Design, 2023 Fall
- Teaching Assistant: RUC, Artificial Intelligence and Python Programming, 2023 Summer

## PAPER REVIEWS

- NeurIPS 2024, ICLR 2025, WACV 2025, AISTATS 2025.

## TECHNICAL SKILLS

- Languages: Python, C/C++, LaTeX
- Skills: Pytorch