Kaiwen Zhang

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Education

Tsinghua University, Beijing, China Sep. 2021 - Present

Bachelor student in Computer Science and Technology (**3.95/4.0**, **Top 5%**)

Publications / Preprints

Research interests: Computer Vision, Generative Models, Deep Learning, and Neural Rendering.

- **Kaiwen Zhang**, Yifan Zhou, Xudong Xu, Xingang Pan* and Bo Dai.
  DiffMorpher: Unleashing the Capability of Diffusion Models for Image Morphing *ArXiv 2023*
  Project / ArXiv / Code / Huggingface Demo (*Corresponding Author)

Honors and Awards

National Scholarship (**Highest Honor** for undergraduates in China, ∼ **Top 0.2%**) Oct. 2023
Second Prize (3 / 109), The Jittor AI Challenge (Image Generation Track) Sept. 2023
Tsinghua University Comprehensive Excellence Scholarship (**Top 5%** undergraduates) Oct. 2022
Meritorious Winner (Top 10%), American Mathematical Contest in Modeling Mar. 2022

Experience

Intelligent Digital Creation Group, Shanghai AI Lab Jul. 2023 - Present

Research Intern Primary Advisor: Prof. Xingang Pan @ NTU MMLab (Remotely)

- Conduct research on image morphing based on diffusion models.
- Propose novel algorithms to enhance rationality and smoothness in real image interpolations, which exhibit excellent performance that **surpasses all existing methods by a large margin**.
- **Paper is submitted to CVPR as the first author.** This is **the first time** that diffusion models have been used to create natural and seamless morphing of real-world images, unlocking the great potential of diffusion models for video tasks.

Knowledge Engineering Group, THU Sep. 2022 - Jun. 2023

Research Assistant Advisor: Prof. Jie Tang

- Design, implement and train a Variational Autoencoder specific to video data.
- Implement *Pix2Video: Video Editing using Image Diffusion* based on the Stable Diffusion model.
- Implement *Prompt-to-Prompt Image Editing with Cross-Attention Control* in the latent space.

Student Association of Science and Technology, THU CST Aug. 2022 - Aug. 2023

Core member

- Serve as a summer training instructor for computer vision and generation models in AI track. Here is the website, the handout and the project designed by me.

Relevant Coursework

- Fundamentals of Programming (A+)
- Introduction to Computer Systems (A+)
- Introduction to Artificial Intelligence (A)
- Fundamentals of Computer Graphics (A)
- Software Engineering (A)
- Data Structures (A)
- Programming Training (A)
- Calculus A I & II (A)
- Linear Algebra (A)
- Probability and Statistics (A)