HAONAN QIU

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OBJECTIVE

I am actively pursuing research opportunities related to video generation/enhancement/control/editing.

RESEARCH INTERESTS

My research interests mainly focus on Artificial Intelligence Generated Content (AIGC). I have worked on various research topics related to **video diffusion models**, including longer video generation, higher-resolution generation, efficient generation, motion control, and ID personalization.

EDUCATION

PhD program in School of CSE, supervised by Prof. Ziwei Liu (MMLab@NTU) Aug 2021 - Dec 2025
Nanyang Technological University, GPA: 4.33/5.00

Bachelor of Engineering in Computer Science Aug 2015 - May 2020
The Chinese University of Hong Kong, Shenzhen, CGPA: 3.69/4.00, **MGPA: 3.96/4.00 (Ranking: 1/71)**

SELECTED PUBLICATIONS

FreeScale: Unleashing the Resolution of Diffusion Models via Tuning-Free Scale Fusion
Haonan Qiu, Shiwei Zhang, Yujie Wei, Ruihang Chu, Hangjie Yuan, Xiang Wang, Yingya Zhang, Ziwei Liu
International Conference on Computer Vision (ICCV), 2025

FreeNoise: Tuning-Free Longer Video Diffusion via Noise Rescheduling
Haonan Qiu, Menghan Xia, Yong Zhang, Yingqing He, Xintao Wang, Ying Shan, Ziwei Liu
International Conference on Learning Representations (ICLR), 2024

FreeTraj: Tuning-Free Trajectory Control in Video Diffusion Models
Haonan Qiu, Zhaoxi Chen, Zhouxia Wang, Yingqing He, Menghan Xia, Ziwei Liu
arXiv preprint, 2024

ReliTalk: Relightable Talking Portrait Generation from a Single Video
Haonan Qiu, Zhaoxi Chen, Yuming Jiang, Hang Zhou, Xiangyu Fan, Lei Yang, Wayne Wu, Ziwei Liu
International Journal of Computer Vision (IJCV), 2024.

SemanticAdv: Generating Adversarial Examples via Attribute-conditional Image Editing
Haonan Qiu*, Chaowei Xiao*, Lei Yang*, Xinchen Yan, Honglak Lee, Bo Li
European Conference on Computer Vision (ECCV), 2020.

Few-shot Forgery Detection via Guided Adversarial Interpolation
Haonan Qiu, Siyu Chen, Bei Gan, Kun Wang, Huafeng Shi, Jing Shao, Ziwei Liu
Pattern Recognition (PR), 2023.

Two-phase Hair Image Synthesis by A Self-Enhancing Generative Model
Haonan Qiu, Chuan Wang, Hang Zhu, Xiangyu Zhu, Jinjin Gu, Xiaoguang Han
Computer Graphics Forum (CGF), 2019.

Timestep Embedding Tells: It's Time to Cache for Video Diffusion Model
Feng Liu, Shiwei Zhang, Xiaofeng Wang, Yujie Wei, **Haonan Qiu**, Yuzhong Zhao, Yingya Zhang, Qixiang Ye, Fang Wan
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2025

Text2Human: Text-Driven Controllable Human Image Generation
Yuming Jiang, Shuai Yang, **Haonan Qiu**, Wayne Wu, Chen Change Loy, Ziwei Liu
ACM Transactions on Graphics (SIGGRAPH), 2022.

RESEARCH EXPERIENCE

Research Intern, at Alibaba TongYi Vision Intelligence Lab July 2024 - Present

- **FreeScale**. Proposed a method for higher-solution visual generation, unlocking the **8k** image generation.

Research Intern, at Tencent AI Lab June 2023 - June 2024

- **FreeNoise**. Proposed a tuning-free and time-efficient paradigm for longer video generation based on pre-trained video diffusion models (published in ICLR).
- **FreeTraj**. Proposed a tuning-free method for trajectory-controllable video generation. (in submission)

Research Consultant, at SenseTime Nov 2020 - July 2021

- Proposed the first benchmark of the few-shot forgery detection and a novel SOTA method for this task. (published in PR)
- Designed a highly controllable hair editing method with high image quality and multiple modes.

Research Intern, Remotely Corporate With Professor Bo Li at UIUC May 2019 - Nov 2020

- **PaintMal**. Applied inpainting in pdf malware generation whose results evaded the most real-world Anti-virus detectors on VirusTotal.
- **SemanticAdv**. Achieved semantic attack by **feature-space interpolation**, which owned the **strongest** attack performance compared to all other semantic attack methods. (published in ECCV)
- **EdgeGANRob**. Used robust edge features to improve the robustness of CNNs without adversarial training. Applied GAN to compensate for the loss of information caused by edge extraction. (published in ICCV)

ACADEMIC REVIEWERS

Journal

TPAMI, IJCV

Conference

ICLR, CVPR, ICCV, Siggraph, Siggraph Asia, AAAI, AISTAT

TEACHING EXPERIENCE

Teaching Assistant at NTU

SC1005: Digital Logic Fall 2023

SC2006: Software Engineering Spring 2023

Undergraduate Teaching Assistant at CUHK(SZ)

CSC3002: Introduction to Computer Science: Programming Paradigms Fall 2017, Spring 2018

CSC1002: Computational Laboratory Spring 2017

SELECTED HONORS

AISG PhD Fellowship 2022, 2023, 2024

Academic Performance Scholarship 2018

Undergraduate Student Teaching Fellow 2017, 2018

Undergraduate Research Award 2016, 2017, 2018

Dean's List 2016, 2017, 2018