HAONAN QIU

Nanyang Technological University, 50 Nanyang Ave, 639798

+65 89413344 ⋄ HAONAN002@e.ntu.edu.sg

OBJECTIVE

I am actively pursuing research opportunities to advance cutting-edge video diffusion models, aiming to create stunning movies using simple scripts.

RESEARCH INTERESTS

AIGC (especially Video Diffusion Models), Adversarial Machine Learning

EDUCATION

PhD program in Computer Science and Engineering　　　　　　　　　　Aug 2021 - Present
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

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

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.

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.

Can Shape Structure Features Improve Model Robustness under Diverse Adversarial Settings?
Mingjie Sun, Zichao Li, Chaowei Xiao, **Haonan Qiu**, Bhavya Kailkhura, Mingyan Liu, Bo Li
International Conference on Computer Vision (ICCV), 2021.

RESEARCH EXPERIENCE

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 Antivirus 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)

Research Intern, at SenseTime　　　Sep 2018 - May 2019

- Surveyed the state-of-the-art approaches of image denoising and super-resolution.

- Reproduced influential algorithms of denoising and super-resolution. Integrated them into a unified framework.

- Explored the advanced methods of denoising and super-resolution.

Research Assistant, Shenzhen Research Institute of Big Data at CUHK(SZ)　　　Jan 2018 - Sep 2018

- Paper retrieval and presentation in seminars. Main topics were about GAN and its related applications.

- Created a high quality dataset for hair synthesis. Tested almost all state-of-the-art generative models.

- Created a self-enhancing generative model for Sketch2Hair. (published in CGF)

SELECTED PROJECTS

Unmanned Aerial Vehicle -Assisted Unmanned Ground Vehicle Systems　　　Jun 2017 - Dec 2017
Advised by Professor Simon Pan in Wireless Communication Lab at School

· Designed an algorithm for automatic path planning, which took into account potential target points.
· Optimized route for the unmanned ground vehicle. Corrected the route with Kalman Filter.

CUHK(SZ) Wechat Campus Card Development　　　Jun 2017 - Oct 2017
Cooperation with Information Technology Services Office at School

· Learned the Front-End technology and Wechat mini program language. Developed CUHK(SZ) mini program.
· More than two-thirds of students were our users and won the Digital Star Award by Tencent.

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
Academic Performance Scholarship	2018
Undergraduate Student Teaching Fellow	2017, 2018
Undergraduate Research Award	2016, 2017, 2018
Dean's List	2016, 2017, 2018