

HAONAN QIU

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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*, Xinchun 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 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)

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