HAONAN QIU

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OBJECTIVE

I'm **Haonan Qiu**, an undergraduate majoring in computer science at School of Science and Engineering at The Chinese University of Hong Kong, Shenzhen. I'm interested in Adversarial Learning, Deep Learning, and Computer Vision (particularly deep generative models).

I just finished the gap year in Sensetime and now go back to school as a senior student. Currently, I am a research intern hosted by Prof. Bo Li and work closely with Chaowei Xiao. **I'm eager to pursue a future PhD position (2020 FALL).**

EDUCATION

Bachelor of Engineering in Computer Science Aug 2015 - May 2020
The Chinese University of Hong Kong, Shenzhen, **MGPA: 3.95/4.00**

Summer Transfer Jun 2017 - Aug 2017
University of California, Berkeley, GPA: 4.00/4.00

PUBLICATIONS

SemanticAdv: Generating Adversarial Examples via Attribute-conditional Image Editing
Haonan Qiu, Chaowei Xiao, Lei Yang, Xinchen Yan, Honglak Lee, Bo Li
ArXiv preprint, 2019.

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

RESEARCH EXPERIENCE

Research Intern, Remotely Corporate With Prof. Bo Li in UIUC May 2019 - Present

- **PaintMal**. Applied inpainting in pdf malware generation whose results evaded the most real-world Anti-virus detectors on VirusTotal. (under review)
- **SemanticAdv**. Achieved semantic attack by **feature-space interpolation**, which owned the **strongest** attack performance compared to all other semantic attack methods. (under review)
- **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. (under review)
- Explored how to use the additional unlabelled data from other domains to improve the robustness of classification models. Researched the extraordinary overfitting phenomenon in Adversarial Training.

Research Intern, Super-Resolution Group at SenseTime Sep 2018 - May 2019

- Surveyed the state-of-the-art approaches of image denoising and super-resolution.
- Reproduced some influential algorithms of denoising and super-resolution. Integrated them into a unified framework.
- Explored the advanced methods of denoising and super-resolution, mainly for real scenes rather than using the simulated data as before.

Research Assistant, Shenzhen Research Institute of Big Data 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)

PROJECTS

Selfie Style Transfer Software Development Feb 2018 - May 2018
Algorithm Engineer

· Surveyed existing style transfer approaches and tested some of them.
· Transferred human face into cartoon or animal style by Neural Style Transfer and Cycle-GAN.

Unmanned Aerial Vehicle -Assisted Unmanned Ground Vehicle Systems Jun 2017 - Dec 2017
Algorithm Engineer

· 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.
· One paper accepted by ICCC (responsible for the algorithm part).

CUHK(SZ) Wechat Campus Card Development Jun 2017 - Oct 2017
Front-End Engineer

· Learned the Wechat mini program language and developed CUHKSZ mini program in two months.
· More than two-thirds of students were our users and won the Digital Star Award by Tencent.

Form Reader and Handwriting Characters Recognition Software Jan 2017 - May 2017
Software Engineer

· Designed a form reader software which could use phone to replace scanner for Admissions Office.
· Developed some effective functions for data processing on forms automatically.
· Tried to add OCR functions but failed due to the complexity of handwritten Chinese characters.

SKILLS

Programming Languages	Python, C++, Java, R, Matlab
Common Tools	Pytorch, OpenCV

HONORS AND ACTIVITIES

Member of Dean's List	2016, 2017, 2018
Undergraduate Research Award	2016, 2017, 2018
Undergraduate Student Teaching Fellow (Student Teaching Assistant for total 3 courses)	2016, 2017
Academic Performance Scholarship	2018
Tencent WeChat Campus Card "Digital Star"	2017