Fei Yin

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EDUCATION

University of Cambridge — Oct. 2023 − Oct. 2027
PhD in Computer Science.
Supervised by Prof. Rafal Mantiuk.

Tsinghua University — Sept. 2020 − July 2023
Master in Electronic and Information Engineering. — GPA: 3.64/4.0
Supervised by Prof. Yujiu Yang in Intelligent Interaction Group.

Northeastern University — Sept. 2016 − July 2020
Bachelor in Software Engineering. — GPA: 4.15/5.0 Rank: 3/280

PUBLICATIONS

[1] **Fei Yin**, Yong Zhang, Xuan Wang, Tengfei Wang, Xiaoyu Li, Yuan Gong, Yanbo Fan, Xiaodong Cun, Ying Shan, Cengiz Oztireli, Yujiu Yang. *3D GAN Inversion with Facial Symmetry Prior.*
📘 Paper 🐾 Website — CVPR, 2023

[2] **Fei Yin**, Yong Zhang, Xiaodong Cun, Mingdeng Cao, Yanbo Fan, Xuan Wang, Qingyan Bai, Baoyuan Wu, Jue Wang, Yujiu Yang. *StyleHEAT: One-Shot High-Resolution Editable Talking Face Generation via Pre-trained StyleGAN.*
📘 Paper 🐾 Website — ECCV, 2022

[3] **Fei Yin***, Yong Zhang*, Baoyuan Wu*, Yan Feng, Jingyi Zhang, Yanbo Fan, Yujiu Yang. *Generalizable Black-Box Attack with Meta Learning.*
📘 Paper 🐾 Website — TPAMI, 2022

[4] Yiji Cheng*, **Fei Yin***, Xiaoke Huang, Xintong Yu, Jiaxiang Liu, Shikun Feng, Yujiu Yang, Yansong Tang. *Efficient Text-Guided 3D-Aware Portrait Generation with Score Distillation Sampling on Distribution.*
📘 Paper — Under Review

[5] Yuan Gong, Yong Zhang, Xiaodong Cun, **Fei Yin**, Yanbo Fan, Xuan Wang, Ying Shan, Yujiu Yang. *ToonTalker: Cross-Domain Face Reenactment.*
— ICCV, 2023

[6] Kun Cheng, Xiaodong Cun, Yong Zhang, Menghan Xia, **Fei Yin**, Mingrui Zhu, Xuan Wang, Jue Wang, Nannan Wang. *VideoReTalking: Audio-based Lip Synchronization for Talking Head Video Editing In the Wild.*
📘 Paper 🐾 Website — SIGGRAPH Asia (Conference Track), 2022

[7] Wangbo Yu, Yanbo Fan, Yong Zhang, Xuan Wang, **Fei Yin**, Yunpeng Bai, Yan-Pei Cao, Ying Shan, Yang Wu, Zhongqian Sun, Baoyuan Wu. *NOFA: NeRF-based One-shot Facial Avatar Reconstruction.*
📘 Paper 🐾 Website — SIGGRAPH (Conference Track), 2023

[8] Yong Liu, Ran Yu, **Fei Yin**, Xinyuan Zhao, Wei Zhao, Weihao Xia, Yujiu Yang. *Learning Quality-aware Dynamic Memory for Video Object Segmentation.*

[Paper] [Website]   ECCV, 2022

[9] Qingyan Bai, Weihao Xia, **Fei Yin**, Yujiu Yang. *Identity-Guided Face Generation with Multi-Modal Contour Conditions.*
[Paper]   ICIP, 2022

PROJECT EXPERIENCE
Virtual Human Reconstruction and Editing   June 2021 − Dec. 2022
Research Internship at Tencent AI Lab, advised by Dr. Yong Zhang and Dr. Jue Wang.
- We propose to incorporate facial symmetry prior into 3D GAN inversion. We can reconstruct robust geometry and high-fidelity texture in novel views using only one monocular image, even under an extreme pose. [1]
- We discover flexible spatial transformation properties in pre-trained generators. We propose a unified frameworks for multi-modal high-resolution editable talking head generation. [3] We propose a training scheme employing the domain-invariant latent space for cross-domain face reenactment. [5]
- We propose a framework for real-scenario video lip-syncing editing using audio and emotion guidance. We propose canonical expression editing and audio-driven lip-sync modules to achieve photo-realism results. [6]

Robustness of Artificial Intelligence   Oct. 2020 − May. 2021
Tsinghua University, advised by Prof. Baoyuan Wu and Prof. Yujiu Yang.
- We investigate and summarize the adversarial transfer-ability in terms of model-level and example-level.
- We propose an adversarial black-box attack framework with meta learning. The designed framework can boost existing attack methods to reduce the query cost by 20% to 50%, which is verified in open-set datasets and real world classification APIs. [4]

Auto-Driving Map Auto Annotation   July 2019 − Nov. 2019
Software Developer Internship at Pony.ai.
- Participated in the development of road lane detection and auto labeling system.
- Participated in the development of error detection and correction modules of map annotation system.

ACTIVITIES
Host of International Collegiate Programming Contest,
Asia Shenyang Regional Contest   Oct. 2019
Volunteer organizer at Northeastern University.
- Participated in site setup, assessment server and network environment deployment.
- Organized volunteers to distribute resources and balloons.

AWARDS
Competitions
- International Collegiate Programming Contest (ACM-ICPC) Asian Regional, *Silver Medal.*
                                                                              2018 − 2019
- China Collegiate Programming Contest (CCPC), *Silver Medal.*   2018 − 2019
- Blue Bridge Cup National Programming Contest, *Finals, First Prize.*   2019

Honorship
- *National Scholarship*, Three times.   2017 - 2022
- *Outstanding Undergraduate Student Fellowship*, Northeastern University.   2020