

PENGDA XIANG

University of Southern California
Department of Computer Science
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EDUCATION

University of Southern California, Los Angeles, CA Aug. 2019 – Present

- Ph.D. Candidate in Computer Science

Tsinghua University, Beijing, China Sept. 2013 – Jul. 2017

- B.S. in Computer Science from Pilot CS Class (Yao Class)

RESEARCH INTERESTS

Deep Generative Models, Computer Vision (3D & 2D), Computer Graphics, Deep Learning.

HONORS AND AWARDS

Finalist of 2019 ACM-ICPC World Finals, Porto, Portugal April 2019
1st place of 2018 ACM-ICPC Southern California Regional, CA, USA November 2018
Finalist of 2018 ACM-ICPC World Finals, Beijing, China April 2018
1st place of 2017 ACM-ICPC Southern California Regional, CA, USA November 2017
3rd place of ACM-ICPC 2014 Asia Regional, Mudanjiang, China October 2014
3rd place of ACM-ICPC 2013 Asia Regional, Changsha, China November 2013
8th place of NOI2012 (National Olympiad in Informatics 2012), Beijing, China August 2012
3rd place of CTSC2012 (Chinese Team Selection Contest), Beijing, China May 2012
1st place of HNOI2012 (Hunan of National Olympiad Informatics), Changsha, China April 2012
Learning Scholarship of Tsinghua University, Beijing, China 2013, 2014, 2015

PUBLICATIONS

- **Pengda Xiang***, Sitao Xiang*, Yajie Zhao. *Towards Well-distributed Generative Networks Using Adversarial Autoencoders*. (International Conference on Learning Representations (CVPR, 2024), under review)
- **Pengda Xiang**, Sitao Xiang, Yajie Zhao. *Texturize a GAN Using a Single Image*. (IEEE/CVF Winter Conference on Applications of Computer Vision (WACV, 2024), under review)
- Sitao Xiang, Yuming Gu, **Pengda Xiang**, Menglei Chai, Hao Li, Yajie Zhao, Mingming He. *DisUnknown: Distilling Unknown Factors for Disentanglement Learning* (International Conference on Computer Vision (ICCV, 2021))
- Sitao Xiang, **Pengda Xiang***, Yuming Gu*, Mingming He, Koki Nagano, Haiwei Chen, Hao Li. *One-Shot Identity-Preserving Portrait Reenactment*. (*joint second author) (preprint, arXiv: <https://arxiv.org/abs/2004.12452>)
- Ruilong Li, Karl Bladin, Yajie Zhao, Chinmay Chinara, Owen Ingraham, **Pengda Xiang**, Xinglei Ren, Pratusha Prasad, Bipin Kishore, Jun Xing, Hao Li. *Learning Formation of Physically-Based Face Attributes*. (IEEE Conference on Computer Vision and Pattern Recognition (CVPR, 2020))

RESEARCH PROJECTS

Texturize a GAN Using a Single Image Aug. 2021 – Present

- Designed a novel framework that can fine-tune a pre-trained GAN model, and then make the new generator can generate images that are similar to a given reference image.
- Proved the effectiveness of our method in both quantitative and qualitative aspects.

City Scale Scene Generation May. 2022 – Present

- Inference and navigate street views from satellite view for some given locations.
- Make the result consistent in video sequence, and style can be specified by some style image.

Distilling Unknown Factors for Disentanglement Learning Dec. 2020 – Apr. 2021

- Distilled the unknown factors from a dataset where the factors are coupled.

Creating AI painter using Deep Reinforcement Learning May. 2020 – Present

- Used deep reinforcement learning to create AI painters which can draw pictures with strokes.

Portrait Reenactment from a Single Image Aug. 2019 – Apr. 2020

- Designed a one-shot learning method for video portrait generation which can preserve the identity information.
- The two-stage algorithm can overcome the difficulty of maintaining identity.

Formation Learning of Physically-Based Face Attributes Oct. 2018 – Nov 2019

- Introduced a high resolution and non-linear morphable face model.
- Added conditional restrictions on StyleGAN to controllably generate faces.

Recurrent Hourglass Networks for Depths and Normals Estimation Mar. 2016 – Jul. 2016

- Deployed a new neural network architecture named "hourglass" to predict surface depths and normal vectors in images.
- Designed the network and get comparable performance on depth and normal prediction by shaping it like an hourglass.
- Applied this architecture to object detection problem and combining Faster-RCNN, on KITTI dataset.

ACADEMIC SERVICES

- Reviewer for ICCV 2023, WACV 2024.

SKILLS AND LANGUAGES

- Programming: advanced proficiency in C/C++, Python, Pytorch, Tensorflow, Matlab, Java
- Languages: English (advanced proficiency), Chinese (native proficiency)