

Yuehao Wang

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◇ Homepage <http://yuehaolab.com/>

◇ Github <https://github.com/yuehaowang/>

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EDUCATION

The Chinese University of Hong Kong 2021-2025
PhD in Computer Science and Engineering

ShanghaiTech University 2017-2021
B.Eng. in Computer Science and Technology

Selected courses: Computer Architecture (A), Operating Systems (A), Linear Algebra (A), Linear Algebra for Information Science (A), Artificial Intelligence (A), Subspace Learning (A, grad-level), Fundamental Computer Graphics (A+), Advanced Computer Graphics (A+, grad-level), Web and Text Mining (A+)

RESEARCH INTEREST

Primarily lies in the areas of Computer Graphics, Computer Vision, Deep Learning, and Biomedical Engineering. Recent projects focus on Surgical Simulation, Neural Rendering, 3D Reconstruction, and Graph Learning.

RESEARCH WORKS

1. Peihao Wang*, [Yuehao Wang*](#), Hua Lin, Jianbo Shi, **SoGCN: Second-Order Graph Convolutional Networks**, *preprint*, 2021.
2. Minye Wu, [Yuehao Wang](#), Qiang Hu, Jingyi Yu, **Multi-View Neural Human Rendering**, accepted by *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.
[\[Pdf\]](#) [\[Project Page\]](#)

Note: * indicates equal contribution.

RESEARCH EXPERIENCE

Med-AIR Lab Feb 2021 - Present
Supervisor: *Prof. Qi Dou (CUHK)*
Working on simulation and 3D reconstruction of dynamic surgical scenes.

Flare Lab Oct 2020 - Jul 2021
Supervisor: *Prof. Xiaopei Liu (ShanghaiTech)*
Proposed the research topic *Neural Fluid Rendering*, an efficient rendering framework for high-resolution simulation by utilizing deep neural networks.

Virtual Reality and Virtual Computing Center Jul 2018 - Jul 2021
Supervisor: *Prof. Jingyi Yu (ShanghaiTech)*
Participated in the work *Neural Human Rendering*, an end-to-end point-based neural rendering framework for producing photo-realistic free-view-video from multi-view dynamic human captures.
Participated in the project *Light Stage Relighting*, an image-based relighting framework based on the Light Stage capturing system.

Summer Research Jul 2020 - Oct 2020
Supervisor: *Prof. Jianbo Shi (UPenn)*
Proposed the research project *Second-Order Graph Convolutional Networks*, a novel graph convolutional network for multi-task graph learning based on theoretical analysis of graph filter space.

Attitude Research Lab

Sep 2018 – Sep 2020

Supervisor: *Prof. Lifeng Yang (ShanghaiTech)*

Data acquisition and analysis of the experiment *An Online Consumer Psychological Research Based on Live Broadcast Big Data*.

Development and maintenance of experiment platforms and laboratory management systems.

TEACHING EXPERIENCE

Teaching Assistant of Fundamentals of Artificial Intelligence 2021 Fall

Instructor: *Prof. Qi Dou*

Teaching Assistant of Computer Graphics 2021 Spring

Instructor: *Prof. Xiaopei Liu*

Teaching Assistant of Linear Algebra 2020 Fall, 2019 Fall

Instructor: *Prof. Yunfeng Jiang, Nicholas Lindsay*

Teaching Assistant of UTech Academy AI Camp (Data Science Track) 2020 Summer

Instructor: *Jason Wu (NYU), Zhen Zhu (Stanford), Kevin Huang (Stanford)*

Teaching Assistant of Introduction to Computer Programming 2018 Fall

Instructor: *Prof. Laurent Kneip*

HONORS AND AWARDS

1st Place of Citi Financial Innovation Application Competition Nov 2019

Issuer: Citigroup Services and Technology (China), Shanghai Technology Entrepreneurship Foundation for Graduates

1st Prize of Challenge Cup Competition of Science Achievement in China May 2019

Issuer: Shanghai Municipal Education Commission, Shanghai Academy of Social Sciences, Shanghai Science and Technology Committee

TECHNICAL SKILLS

Programming Languages

Python, C/C++, HTML5/JavaScript, MATLAB, C#, R

Software Frameworks & Tools

NumPy, PyTorch, SciPy, Scikit-learn, Unity, OpenGL, Qt, OpenCV, NodeJs, ReactJs, Django, CUDA
GNU/Linux, LaTeX, Docker, Nginx

OTHER PROJECTS

Interactive Volume Renderer

An interactive volume visualization tool using CUDA for real-time rendering. This visualizer is composed of versatile functionalities, including free-view volume data viewing, light controlling, transfer function tuning, etc.

[[Github](#)] [[Slides](#)] [[Videos](#)]

Let's CG

A course project implemented essential algorithms and applications for rendering and geometry processing in the area of computer graphics, including OpenGL, global illumination, volume rendering, Loop subdivision, etc.

[[Github](#)] (Full-mark coursework of *Computer Graphics*)

Reinforcement Cache

A reinforcement learning-based method introduced into the cache replacement strategy to improve the

miss rate of existing traditional cache replacement policies.

[[Pdf](#)] [[Code](#)] (Excellent course project of *Artificial Intelligence*)

Offer Pool

An experimental project for undergraduates to predict probabilities of graduate admission, built with data mining techniques, including data crawling, feature engineering, and machine learning.

[[Github](#)] (Excellent course project of *Web and Text Mining*)

Shadow Scent

A simple mobile game prototype intended to help visually impaired people to obtain more friendly user experience audibly, based on efforts of desk research and interviews about entertainment needs with visually impaired people.

[[Github](#)] (First Prize at the roadshow of *Design Thinking*)

Pylash

A Python 2D game framework, created when in high school, with a series of common modules implemented, such as 2D graphics, event systems, media systems, tween animation, collision detection, etc.

[[Github](#)] (30+ stars, 15+ forks on Github)