YUEHAO WANG

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INTRODUCTION

I am a senior undergraduate student majoring in Computer Science at ShanghaiTech University. My topics of interest include computer graphics, computer vision and deep learning. Recently, I work on projects in neural rendering, 3D vision, and graph learning. Outside of academics, my hobbies include creating games, designing webpages, writing songs, and cycling.

EDUCATION

ShanghaiTech University 2017-2021
B.Eng in Computer Science (Major GPA: 3.82/4.0)
School of Information Science and Technology

EXPERIENCE

Virtual Reality and Virtual Computing Center Jul 2018 - Present
Undergraduate Researcher ShanghaiTech University, Shanghai

- *Supervisor: Prof. Jingyi Yu*
- I mainly work on research projects related to Computer Graphics, Computer Vision, and Deep Learning. My recent research area lies in but is not limited to neural rendering technology, scene representation, 3D vision, and multi-view reconstruction.

Online Summer Research Jul 2020 – Oct 2020
Undergraduate Researcher Online

- *Supervisor: Prof. Jianbo Shi (UPenn)*
- *Partners: Peihao Wang (ShanghaiTech), Hua Lin (UCAS)*
- In the summer research, I studied recent graph learning algorithms and frameworks. Furthermore, my partners and I proposed a novel graph convolutional framework for multi-task graph learning, which achieves SOTA performance on the latest benchmarks. As one of the leaders of the project, my contribution includes implementing our models and methods, conducting numerical experiments and visualizations, raising the novelty of our methods, and performing theoretical analysis.

Attitude Research Lab Sep 2018 – Sep 2020
Technical Support ShanghaiTech University, Shanghai

- *Supervisor: Prof. Lifeng Yang*
- My major work included the generation of testing data and analysis of collected experiment data, as well as developing and maintaining experiment platforms and management systems.

PUBLICATIONS

1. Peihao Wang*, Yuehao Wang*, Hua Lin, Jianbo Shi, **SoGCN: Second-Order Graph Convolutional Networks**, submitted to *International Conference on Learning Representations (ICLR)*, 2021 (under review).
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.

TEACHING

- 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

- 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

SKILLS

Languages
Chinese (native), English (fluent)

Programming Languages
Python (proficient), C/C++ (highly familiar), HTML5/JavaScript (proficient), MATLAB, C#, R

Frameworks & Software Tools
NumPy (highly familiar), PyTorch (highly familiar), SciPy, Scikit-learn, Pandas, Unity, OpenGL, Qt, OpenCV, NodeJs, ReactJs, Django, GNU/Linux, LaTex, Docker, Nginx

PROJECTS

Let's CG This project comprises several essential algorithms and applications of rendering and geometry processing in computer graphics domain, including a tiny encapsulation of OpenGL, Loop subdivision algorithm, ray tracing, global illumination, and volume rendering. [Github]

Reinforcement Cache We adopt a reinforcement learning-based method to cache replacement strategy, aiming to improve the miss rate of existing traditional cache replacement policies. The main idea of modeling is to regard the strategy as an MDP so that we can employ DRL to learn how to make decisions. [Pdf] [Code]

Offer Pool Application for foreign universities is a tough and important problem for students who want to study abroad. We utilized data mining techniques to predict the admission of target universities. With text data crawling from several related websites and online forums, we trained a regression model, which receives an applicant's major, TOEFL, GRE, GPA, and some other application materials as features, then outputs probabilities that the target university will give an offer. [Github]

Shadow Scent A mobile game that is friendly to visually impaired people. After our desk research and interviews about the entertainment of visually impaired people, we design this game aiming to improve video game's user experience and sociability for those vulnerable people. [Github]

Pylash is a 2D game framework in Python, which was developed when I was a high school student. Inspired by my previous experience designing and creating video games, this framework is integrated with various modules including 2D graphics rendering (based on PySide2), event systems, tween animation, media systems, SAT collision detection, etc. [Github]