

YUEHAO WANG

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INTRODUCTION

I am a senior undergraduate majoring in Computer Science at ShanghaiTech University. My research interests include Computer Graphics, Computer Vision and Deep Learning. My recent research focus on neural rendering technology and graph neural networks. I am also passionate about website design and game development.

EDUCATION

ShanghaiTech University 2017-2021
B.Eng in Computer Science (Overall GPA: 3.45/4.0, Major GPA: 3.82/4.0)
School of Information Science and Technology

Selected Courses: Computer Programming (A), Linear Algebra (A), Computer Architecture (A), Web and Text Mining (A+), Operating Systems (A), Artificial Intelligence (A), Linear Algebra for Information Science (A), Computer Graphics (A+)

EXPERIENCES

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, and multi-view reconstruction. I am also a designer and maintainer of the lab's website.

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 propose 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.

Institute of Mathematical Sciences Sep 2019 – Jan 2020, Sep 2020 - Jan 2021
Teaching Assistant of MATH1112 ShanghaiTech University, Shanghai

- *Instructor: Prof. Yunfeng Jiang (2019-2020), Nicholas Lindsay (2020-2021)*
- Linear Algebra (MATH1112) is a fundamental mathematic course for undergraduates. This course covers basic contents in linear systems, determinants, linear transformation, vector spaces, etc. My responsibility in this course includes grading students' homework and exams, giving exercise classes to students every week, as well as answering students' questions.

Ultrabright Education Jul 2020 – Aug 2020
Teaching Assistant of Data Science Track Online UTech Academy Summer Camp

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

- UTech Academy Summer Camp is oriented to 9th-12th grade students and freshmen in universities, who are interested in artificial intelligence technology. As a teaching assistant of data science track, my responsibility includes giving students online session on Python basis, grading students' homework submissions, holding one-on-one office hour for review and discussion on data mining algorithms.

Attitude Research Lab

Technical Support

Sep 2018 – Sep 2020

ShanghaiTech University, Shanghai

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

School of Information Science and Technology

Teaching Assistant of CS100

Sep 2018 – Jan 2019

ShanghaiTech University, Shanghai

- *Instructor: Prof. Laurent Kneip*
- Introduction to Computer Programming (CS100) is an introductory course for all students majoring in Computer Science. This course mainly teaches students essential programming skills in C/C++ and Python. As a teaching assistant, my duty is to give recitations to students every week, grade quizzes and exams, also answer students' questions.

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

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 (in submission).
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.

SKILLS

Languages

Chinese (native), English (CET-6)

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, LaTeX, Docker, Nginx, Visual Studio Code, Jupyter Notebook, Sublime Text, Microsoft Office

Operating Systems

macOS (daily use), GNU/Linux (proficient), Windows

PROJECTS

Let's CG In this project, I implement 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 a MDP so that we can employ DRL to learn how to make decision. [[Pdf](#)] [[Code](#)]

Offer Pool Application for foreign universities is a tough and important problem for students who want to study abroad. We utilize data mining techniques to predict admission of target universities. With text data crawling from several related websites and online forums, we train a regression model which receives major, TOEFL, GRE, GPA and some other application materials as features, then outputs probabilities that the target universities will give you offers.

(Excellent course project of Web and Text Mining)

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

(The best course project of Design Thinking Roadshow)

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](#)]