# YUEHAO WANG

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Website `http://yuehaolab.com`

**Introduction** I am a junior undergraduate majoring in Computer Science at ShanghaiTech University. My research insterests include Computer Graphics, Computer Vision, Deep Learning, Computer System, and Consumer Psychology. My recent research focus on neural rendering technology and learning-based ambivalence tracking of consumers. I am also passionate about website design and game development.

**Education**

B.S., Computer Science
School of Information Science and Technology
ShanghaiTech University
Expected Date of Graduation: July, 2021

**Experience**

**Virtual Reality and Virtual Computing Center**
Undergraduate Student Researcher
Advisor: Prof. Jingyi Yu — Jul 2018 – Present

Mainly work on research projects about Computer Graphics and Computer Vision. My recent work focus on neural rendering for human bodies and kinship recognition. I am also a designer and maintainer of the lab's website.

**Attitude Research Lab**
Research Assistant
Advisor: Prof. Lifeng Yang — Sep 2018 – Present

My major work include generation of testing data and analysis of experimental data, as well as developing and maintaining experiment platforms and management systems. My recent research focus on consumers' ambivalent behavior tracking and analysis based on learning methods.

**ShanghaiTech University**
Teaching Assistant of MATH1112
Instructor: Prof. Yunfeng Jiang — Sep 2019 – Jan 2020

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 dicussions to students every week, as well as answering students' questions.

**ShanghaiTech University**
Teaching Assistant of CS100
Instructor: Prof. Laurent Kneip Sep 2018 – Jan 2019

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

- Citi Financial Innovation Application Competition: 1st Place (Nov 2019)
  **Issuer:** Citigroup
- 2019 The Challenge Cup: First Prize (May 2019)
  **Issuer:** Shanghai Municipal Education Commission

## Skills

**Languages**
Chinese (native), English (Limited working proficiency, CET-6)

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

**Frameworks**
NumPy, SciPy, scikit-learn, Pytorch, Pandas, Unity, OpenGL, WebGL, Qt, OpenCV, Docker, Nginx, NodeJs, ReactJs, Django

**Operating Systems & Softwares**
macOS (daily use), Linux (proficient), Google Chrome (proficient), Jupyter Notebook, Visual Studio Code, Sublime Text, Microsoft Office

## Publications

**Multi-view Neural Human Rendering**

*Minye Wu, Yuehao Wang, Qiang Hu, Jingyi Yu*

We present an end-to-end Neural Human Renderer (NHR) for dynamic human captures under the multi-view setting. NHR adopts PointNet++ for feature extraction (FE) to enable robust 3D correspondence matching on low quality, dynamic 3D reconstructions. To render new views, we map 3D features onto the target camera as a 2D feature map and employ an anti-aliased CNN to handle holes and noises. Newly synthesized views from NHR can be further used to construct visual hulls to handle textureless and/or dark regions such as black clothing. Comprehensive experiments show NHR significantly outperforms the state-of-the-art neural and image-based rendering techniques, especially on hands, hair, nose, foot, etc.

*(Accepted by CVPR 2020)*

**Projects**

**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.

**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 related websites, we train a model which receives your major, TOEFL, GRE, GPA, target universities, etc., and output probabilities that 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 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.
*(The best course project of Design Thinking Roadshow)*
*(Github Repo: `https://github.com/yuehaowang/ShadowScent` )*

**Pylash** is a 2D game framework in Python, which was developed when I was a high school student. Inspired by my experience designing and developing 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 Repo: `https://github.com/yuehaowang/pylash_engine` )*