

Haofan Wang

Zhejiang University, China

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Education

Zhejiang University

Hangzhou, China

B.Eng. with Honors in Artificial Intelligence (Turing Class)

September 2020 - present

- Outstanding honored undergraduate in Chu Kochen Honors College (10%) GPA: 3.86/4
- Selected to Morningside Scholars Program in 2024 (0.6%)
- Fundamental Science Outstanding Talent Scholarship of Zhejiang University

Project Experience

ImTooth: Neural Implicit Tooth for Dental Augmented Reality

CAD&CG lab

Zhejiang University

April 2022 - April 2023

- "AR+ medicine", combined the modeling and localization ability of neural implicit fields into AR glasses to assist clinical surgery of oral medicine.
- Under the guidance of *Prof. Guofeng Zhang* and Ph.D. students, mainly responsible for 3D reconstruction using NeuS, a method developed from NeRF.
- Modified NeuS by adding depth information to accelerate the reconstruction and adding edge information to improve the quality.

PNeRFloc: End-to-end Localization by PointNeRF

CAD&CG lab

Zhejiang University

April 2023 - June 2023

- Localization method inspired by PointNeRF (CVPR 2022 Oral) and Hloc (winner of the CVPR 2020 challenge), utilizing the point features to achieve a rough initial pose by PnP, and refining it using the rendering ability of NeRF.
- Under the guidance of *Prof. Zhaopeng Cui* and a graduate student, helping run experiments.
- Compared our work to related research like Lens and Coordinate, verified the improvement in accuracy compared to those previous end-to-end methods.

Unseen Object Grasp

Grasp lab

Zhejiang University

July 2023 - Present

- A project by myself, aiming to achieve a robust robot system for unseen object grasping.
- Under the guidance of *Prof. Huixu Dong* in the School of Mechanical Engineering.
- Learned some missing classes in this new area, read and implemented some related articles.
- Currently, I'm building my system and trying to refine it afterward.

Course labs

College of Computer Science and
Technology

Zhejiang University

September 2021 - current

- Machine Learning: Handwriting numerals recognition on mnist. Using traditional machine learning methods like SVM, and deep neural networks like MLE, CNN, etc. Adding tricks like data augmentation, feature extraction by VAE, etc.
- Computer Graphics: Design a 3D horror game from scratch using opengl. Audio, action, collision detection etc. are added.
- Computer Organization and Design: Designed and implemented a five-stage pipelined CPU with interruption on FPGA using verilog.
- Operating System: Building a mini Linux kernel from scratch.
- Database system: Building a small database system with teammates.

Publications

ImTooth: Neural Implicit Tooth for Dental Augmented Reality

Hai Li, Hongjia Zhai, Xingrui Yang, Zhirong Wu, Yihao Zheng, Haofan Wang, Jianchao Wu, Hujun Bao, Guofeng Zhang

IEEE Transactions on Visualization and Computer Graphics (2023) pp. 1–10. 2023

Languages

English IELTS 7.0

Skills

Programming Python (PyTorch, Cuda), C/C++, Java, Html, etc.

Miscellaneous Linux, \LaTeX (Overleaf/R Markdown), Microsoft Office, Git.

References available upon request.