Yinghao Zhang

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EDUCATION

SHANGHAITECH UNIVERSITY, Shanghai, China   Aug. 2020 – Jun. 2024 (Expected)
Bachelor of Engineering Candidate, Computer Science and Technology
- GPA: 3.89/4.0 | Rank (Major): 2/177 | GPA(Major): 4.0/4.0
- Merit Award, Ranked Number One (Jan. 2022)

UNIVERSITY OF CALIFORNIA AT BERKELEY, Berkeley, CA   Aug. 2022 – May. 2023
Global Learning and Outreach from Berkeley Engineering (GLOBE) Exchange Program
- Computer Science coursework
- GPA: 4.0/4.0

RESEARCH INTEREST

Making perception, reconstruction and rendering more realistic and efficient through creating breakthroughs in
Computer Vision and **Computer Graphics**.

EXPERIENCE

UNIVERSITY OF CALIFORNIA AT BERKELEY, Berkeley, CA   **2022 – Present**
Undergraduate Researcher | PI: Prof. Alexei A. Efros   *Aug. 2022 – Present*
- Researched with PhD students on Test-time-training for segmentation tasks. The overall objective is to generalize the test-time-training method proposed in another paper to segmentation task on videos.
- Re-implemented Mask2Former model in cooperation with Masked Auto-encoder. Completed the support of Pytorch2.0.

SHANGHAITECH UNIVERSITY, Shanghai, China   **2020 – Present**
Undergraduate Researcher, Head and Hand Lab | PI: Prof. Jingyi Yu   *Aug. 2021 – Aug. 2022*
Second author of paper on **SIGGRAPH-Asia 2022**.
- Pose part leader: used AR tags to capture the pose and motion of human jaw in a light stage as data to feed into a network, where orthogonal Procrustes and Savitzky-Golay filter were used to make the trajectory of the AR tags accurate and smooth, reaching an eventual accuracy of 0.1mm.
- Reconstructed human faces, figured out coordinate transformation and converted Euler angles, rotation vectors and rotation matrices to fit different uses.
- Rendered the images of head model using Blender and composed results in section of paper titled *SCULPTOR: Skeleton-Consistent Face Creation Using a Learned Parametric Generator.* The paper was accepted by SIGGRAPH-Asia in Aug. 2022.

Member, Multi-disciplinary Artificial Reality Studio | PI: Prof. Jingyi Yu   *Jul. 2021 – May 2022*
- Assisted PhD students' Studio projects related to building a Metaverse of avatars for each student participating in the ShanghaiTech graduation ceremony by searching and modifying several Python repositories on GitHub, including VOCA, ESRGAN, and LAMA.

Team Leader, Gold Medal, The 45th ICPC (International Collegiate Programming Contest)
Asia Kunming Regional Contest, ACM (Association for Computing Machinery)   *Apr. 2021*
- Solved 7 of 13 contest problems in 5 hours, ranking 21st among 813 teams, by designing flexible algorithms in C++ to enable them to solve as many problems as possible in limited time.
- Led a team of three to write a program to give the expected output under each sample input for each problem, which included dynamic programming, data structures, advanced counting, and network flow.

COURSE PROJECTS

Computer Graphics (CS184) Course Project | Prof. Ren Ng & Prof. James O'Brien   *Mar. 2023*
- Implemented Ball Pivoting Algorithm to compose a report and a video. [Project Website](#)

Deep Learning (CS182) Course Project | Prof. Anant Sahai   *Dec. 2022*
- Implemented Vision Transformer using JAX in Python and made it a homework.

Compilers (CS131) Course Project | Prof. Fu Song   *Apr. 2022 – Jun. 2022*
- Used Flex, Bison and LLVM to write a parser for Chocopy.

Introduction to Machine Learning (CS182) Course Project | Prof. Lu Sun   *May 2022*
- Implemented several classifiers on water quality using existing data, including KNN, AdaBoost, logistic regression, random forests, SVM, XGBoost and neural networks.
- Summarized our findings in report as lead writer.

ACTIVITIES

UNIVERSITY OF CALIFORNIA AT BERKELEY, Berkeley, CA   **2022 – 2023**

Volunteer, Food Distribution and Clothing Donation, Berkeley, the United States   *Jun. 2023*
- Volunteered to serve and distribute food to those in need of shelters, talked to them to know about their situations and encouraged them.

SHANGHAITECH UNIVERSITY, Shanghai, China   **2021 – Present**

Team Member, Social Practice Project, Quankou Village, Hubei Province, China   *Jul. 2021*
- Conducted onsite research on poor villages' health care system and their major sources of income like tea planting and poultry raising.
- Identified the key social problem of left-behind children thru interviews with members of villages, in which most young adults work as migrant workers in cities while leaving their elders and children in the mountains, and delivered a report on recommendations to mitigate the situation, focusing on shifting resources to upgrading transportation infrastructure and logistics to attract economic opportunities.

Mentor, Student Affairs Department, Top Student Workshop, Shanghai, China   *May. 2022*
- Shared personal experience online on studying programming and mathematics with fellow students at ShanghaiTech, emphasizing the importance of making plans early and finding an appropriate study-life balance.

SKILLS

- Languages: Mandarin (Native), English (Fluent), TOEFL: 103 (R27/L28/W26/S22, Jun. 2023)
- Computer Skills: C/C++, Python, Pytorch, RISC-V, MATLAB, Blender, LaTeX. Mastered basic algorithms in data structure, string theory, graph theory, polynomial theory, number theory, network flow, computational geometry, dynamic programming.