Zeen (Harry) Chi

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EDUCATION

- **Massachusetts Institute of Technology (MIT)** — Cambridge, MA
  Undergraduate Exchange Student, Computer Science — *Feb. 2023 - May 2023*
    - **GPA:** 5.0/5.0
    - **Coursework:** Advances in Computer Vision, Matrix Methods

- **ShanghaiTech University, School of Information Science and Technology (SIST)** — Shanghai, China
  B.Eng. Candidate, Computer Science — *Sept. 2020 - Present*
    - **Overall GPA:** 3.97/4.0 (rank 1/248 in SIST)
    - **Major GPA:** 4.0/4.0
    - **Selected coursework:** Computer Graphics (A+), Artificial Intelligence (A+), Introduction to Machine Learning (A+), Computer Architecture (A+), Mathematical Analysis I & II (A+ & A), Probability and Statistics (A+)

RESEARCH EXPERIENCE

- **MIT CSAIL, Medical Vision Group** — Cambridge, MA
  Undergraduate Researcher, advised by Prof. Polina Golland — *Mar. 2023 - Present*
    - **Human Uterine MRI Atlas Construction** — **PIPPI Workshop @ MICCAI 2023**
        * Constructed the **first** uterine MRI atlases that serve as videos that showcase MRI intensity changes of the fetus and placenta over time without motion
        * Followed dynamic NeRF schemes with implicit neural representations to simultaneously create reference volume and accomplish frame registration.

- **ShanghaiTech Visual & Data Intelligence Center, PLUS Lab** — Shanghai, China
  Undergraduate Researcher, advised by Prof. Xuming He — *Sept. 2022 - Jan. 2023*
    - **Long-tailed Recognition in Human-Object Interaction Detection**
        * Proposed a method of introducing the overall information of human posture as a prior cue to improve the confidence level of the HOI detection output for the corresponding possible categories
        * Reviewed papers on cutting-edge Transformers-based HOI detection algorithms and investigated instances of long-tailed distribution in HOI datasets and their impacts on detection results
        * Applied and evaluated multiple existing mainstream methods to alleviate the long-tailed distribution of HOI datasets.

COURSE PROJECTS

- **Adversarial Attacks and Defense in Image Classification** [code] — Cambridge, MA
  MIT 18.0651: Matrix Methods in Data Analysis, Signal Processing, and Machine Learning — *Apr. 2023 - May 2023*
    - Thoroughly reviewed the development of adversarial attack and defense in image classification
    - Implemented representative adversarial attack and defense algorithms, and conducted extensive experiments on the ImageNet dataset to evaluate and compare their performances and robustness.

- **Ray Tracing NURBS Surfaces** [code] — Shanghai, China
  ShanghaiTech CS171: Computer Graphics I — *Dec. 2022 - Jan. 2023*
    - Implemented a path tracer with global illumination for directly rendering untrimmed NURBS surfaces without tessellation; created more than 3300 C++ baseline
    - Applied surface refinement for better rendering quality and efficiency
    - Constructed a BVH to maintain the surface sub-patches and accelerate the ray-patch intersection process

- **Who is Flying over?** [code][demo] — Shanghai, China
  ShanghaiTech SI100B: Introduction to Information Science and Technology — *Dec. 2020 - Jan. 2021*
    - Built a website on Raspberry Pi that displays real-time information about regional flights
    - Utilized web crawler for data fetching and simultaneously displayed the data via LED and website
    - Implemented a fancy control panel on the website for real-time human-computer interactions, including region selection and LED control
    - Won an Excellent Course Project Award (**Top 1**) [poster]

HONORS AND AWARDS

- ShanghaiTech **Scholarship** (**Top 2%** of SIST students) — Jan. 2022
- ShanghaiTech **Scholarship** (**Top 3%-7%** of SIST students) — Dec. 2022
- The **Outstanding Individual** of ShanghaiTech career trek program — Nov. 2022
- The **Outstanding Individual** of ShanghaiTech social research in Chinese poor areas — Nov. 2021
- **First Prize**, the 2018 National Olympiad in Informatics in Provinces, Shandong — Dec. 2018

Skills

- **Languages:** Python, C&C++
- **Tools:** PyTorch, Numpy, OpenGL, Git

Volunteer Experience

- **Shanghai Marathon 2022** — Shanghai, China
  Assisted athletes in check-in — *Nov. 2022*
- **RISC-V World Conference China 2021** — Shanghai, China
  Assisted the organizer to set up the venue and provided technical support to the participants — *June 2021*
- **Admissions Presentation** — Qingdao, China
  Lectured on ShanghaiTech University to high school students in Qingdao — *Jan. 2021 & June 2022*
- **COVID-19 Campus Voluntary Service** — Shanghai, China
  Assisted in COVID test and distributing supplies during the lockdown of Shanghai — *Apr. 2022 - May 2022*

Language

- **Chinese:** Native
- **English:** Fluent
  - TOEFL: 105 with R28/L26/S22/W29