

# Haoyu Zhen

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## EDUCATION

- Shanghai Jiao Tong University** Shanghai, China
  - Bachelor of Engineering* Sept 2020 - Current
    - Overall GPA: 92.80/100, 4.03/4.30 (Rank 4/88).
    - 4th semester GPA: 95.24/100, 4.20/4.30 (**Rank 1/89**).
    - Selected Courses: Machine Learning (A+), Natural Language Process (A+), Deep Learning (A+), Reinforce Learning (A+), Data Mining (A+), Digital signal and image processing (A+), Design and Analysis of Algorithms (A+), Artificial Intelligence Problem Solving and Practice (A+), Linear and Convex Optimization (A+), Stochastic Processes (A+)
- Massachusetts Institute of Technology** Cambridge, US
  - Visiting Student* July 2023 - Dec 2023

## PUBLICATIONS

- 3D-VLA: A 3D Vision-Language-Action Generative World Model** arXiv 2024
  - Haoyu Zhen, Xiaowen Qiu, Peihao Chen, Jincheng Yang, Xin Yan, Yilun Du, Yining Hong, Chuang Gan<sup>†</sup>
- 3D-LLM: Injecting 3D World into Large Language Model** NeurIPS 2023 Spotlight
  - Yining Hong, Haoyu Zhen, Peihao Chen, Shuhong Zheng, Yilun Du, Zhenfang Chen, Chuang Gan<sup>†</sup>
- Color-NeuS: Reconstructing Neural Implicit Surfaces with Color** 3DV 2024
  - Licheng Zhong, Lixin Yang, Kailin Li, Haoyu Zhen, Mei Han, Cewu Lu<sup>†</sup>
- Relative Entropic Optimal Transport: a (Prior-aware) Matching Perspective to (Unbalanced) Classification** NeurIPS 2023
  - Liangliang Shi, Haoyu Zhen, Gu Zhang, Junchi Yan<sup>†</sup>
- CHORD: Category-level in-Hand Object Reconstruction via Shape Deformation** ICCV 2023
  - Kailin Li\*, Lixin Yang\*, Haoyu Zhen, Zenan Lin, Xinyu Zhan, Licheng Zhong, Jian Xu, Kejian Wu, Cewu Lu<sup>†</sup>
- Understanding and Generalizing Contrastive Learning from the Inverse Optimal Transport Perspective** ICML 2023
  - Liangliang Shi, Gu Zhang, Haoyu Zhen, Jintao Fan, Junchi Yan<sup>†</sup>

## EXPERIENCE

- Meshy AI, Taichi Graphics** Beijing, China
  - Research intern, supervised by Dr. Tiantian Liu and Dr. Yuanming Hu Feb 2024 - July 2024
  - 3D Generation and Diffusion Model
- Computational Cognitive Science Lab, MIT** Cambridge, US
  - Visiting scholar, supervised by Prof. Josh Tenenbaum Mar 2023 - Dec 2023
  - Embodied AI and 3D Vision
- MIT-IBM Watson AI Lab** Cambridge, US
  - Visitor, supervised by Prof. Chuang Gan and Dr. Zhenfang Chen July 2023 - Dec 2023
  - Diffusion Model, Large Language Model and World Model
- Machine Vision and Intelligence Group** Shanghai, China
  - Undergraduate researcher, supervised by Prof. Cewu Lu and Dr. Lixin Yang Dec 2021 - July 2024
  - 3D Reconstruction and Hand-Object Interaction.
- SJTU-ReThinklab** Shanghai, China
  - Undergraduate researcher, supervised by Prof. Junchi Yan. Sept 2022 - May 2023
  - Self-supervised Learning (Contrastive Learning) and Optimal Transport

## PROJECTS

- PyBlend: A Python Library for Blender** Aug 2023
  - Shanghai Jiao Tong University
    - Built PyBlend, a Python library aimed at enhancing Blender scripting. [GitHub](#).
- Shanghai Jiao Tong University AI Pilot Class Website** Jan 2022 - Apr 2022
  - Shanghai Jiao Tong University
    - Built a community for the AI pilot class at SJTU. Homepage: [Website](#) or [GitHub](#).

## HONORS AND AWARDS

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- 2023. Rong Chang Scholarship (10 winners, 30000¥)
- 2021/2022/2023. Academic Excellence Scholarship of SJTU (top 10%)
- 2021. Huawei Smart Base Scholarship
- 2019. The first prize of the 36th CPHO semi-finals, Beijing Division (Rank: 17, top 1%)

## SKILLS SUMMARY

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- **Proficient:** Python (PyTorch, NumPy, pandas, scikit-learn, etc.), C/C++, Linux, Shell (Bash/Zsh), L<sup>A</sup>T<sub>E</sub>X, Git, Blender
- **Familiar:** MATLAB, HTML/CSS, etc.