Pengxiang Zhu

JubSteven.github.io

pengxiang_zhu@u.nus.edu
https://github.com/JubSteven

Education

- **National University of Singapore** — Singapore
  Master of Computing in Artificial Intelligence — *August 2025 - Current*
- **Shanghai Jiao Tong University** — Shanghai, China
  Bachelor of Engineering, Computer Science and Engineering (IEEE honor class) — *Sept 2021 - June 2025*
  - **Overall GPA**: 92.43/100.00, 4.04/4.30, (Rank 7/129)
  - **Selected Courses**: Natural Language Processing (A+), Fundamentals of Data Science (A+), Design and Analysis of Algorithms (A+), Mathematical Analysis (A+), Linear and Convex Optimization (A+), Probability and Statistics (A+), Discrete Mathematics (A+)

Publications

- **PoseAnything6D: Generalized 6D Pose Estimation via Cousin Reference**
  ***Pengxiang Zhu**, Junxiao Kong, Xinyu Zhan, Licheng Zhong, Cewu Lu, Leonidas Guibas, Yang You, Lixin Yang, Chaoyue Niu*
  - **In submission to NeuralPS 2025**
  - PoseAnything6D generalizes 6DoF pose estimation using a cousin reference CAD model and DINOv2 feature rendering. A coarse-to-fine ranking and refinement pipeline iteratively refines poses, achieving state-of-the-art performance and strong generalization to unseen objects.

- **Multi-view Hand Reconstruction with a Point-Embedded Transformer**
  *Lixin Yang, Licheng Zhong, **Pengxiang Zhu**, Xinyu Zhan, Junxiao Kong, Jian Xu, Cewu Lu*
  - **IEEE-TPMAI** | Paper | Code
  - POEM-v2 is a generalizable multi-view hand mesh reconstruction model which embeds a static basis point within the multi-view stereo space. To infer accurate 3D hand mesh from multi-view images, POEM-v2 introduce a point-embedded transformer decoder. POEM-v2 demonstrates superior generalization ability in real-world applications.

- **FAVOR: Full-body AR-driven Virtual Object Rearrangement Guided by Textual Instructions**
  *Kailin Li, Lixin Yang, Zenan Lin, Jian Xu, Xinyu Zhan, Yifei Zhao, **Pengxiang Zhu**, Wenxiong Kang, Kejian Wu, Cewu Lu*
  - **AAAI 2024** | Paper
  - FAVOR presents a novel dataset for Full-body AR-driven Virtual Object Rearrangement. It also proposes a pipeline for producing digital human rearrangement motion sequences.

Experience

- **Machine Vision and Intelligence Group, SJTU** — Shanghai, China
  Undergraduate research intern, supervised by Prof. Cewu Lu and Prof. Lixin Yang — *Mar 2023 - Now*
  Computer Vision, Embodied Intelligence

- **Department of Artificial Intelligence, bilibili** — Shanghai, China
  Algorithm intern, supervised by Dr. Jun Xu — *Jun 2024 - Sept 2024*
  Computer Vision, Multi-modal Large Language Models

Projects

- **Chinese Slot Language Understanding** — Shanghai, China
  CS3602 Natural Language Understanding Course Project — *Nov 2023 - Jan 2024*
  - In this project, we build a BERT-based pipeline for Chinese slot understanding. We incorporated Lexicon information into the BERT backbone and achieved descent result on the given noisy dataset. Code Report

- **CUT++: Image Style Transfer** — Shanghai, China
  AI3603 Artificial Intelligence - Theory and Practice Course Project — *Nov 2023 - Jan 2024*
  - In this project, we build our CUT++ structure for image style transfer on the renowned CUT model. By introducing attention into the GAN-based model and modifying the PatchNCE loss, we achieve decent result on the given dataset. Code Report

Honors and Awards

- Academic Excellence Scholarship of SJTU (top 10%) *2022, 2023*
- Academic Excellence Scholarship of SJTU (top 30%) *2024*
- Long Hu scholarship(5000 ¥, Rank 7/129) *2021-2022*
- Finalist of Mathematical Contest of Modeling(top 5% globally) *2022*

Miscellaneous

- **Proficient**: Python (PyTorch, NumPy, etc.), C/C++, Linux, Shell, LaTeX
- **Familiar**: MATLAB, HTML/CSS, Verilog, etc.