Pengxiang Zhu

JubSteven.github.io

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https://github.com/JubSteven

Education

- **Shanghai Jiao Tong University** — Shanghai, China
  Bachelor of Engineering, Computer Science and Engineering (IEEE honor class) — *Sept 2021 - Current*
  - **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

- **Multi-view Hand Reconstruction with a Point-Embedded Transformer**
  *Lixin Yang, Licheng Zhong, **Pengxiang Zhu**, Xinyu Zhan, Junxiao Kong, Jian Xu, Cewu Lu*
  - **arXiv** | Paper | Code
  - POEM 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 introduce a point-embedded transformer decoder. POEM 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 - Current*
  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

- **Generalized Object Pose Estimation** — Shanghai, China
  Research Project — *Feb 2024 - Now*
  - In this project, we intend to build a framework that can accomplish object pose estimation on arbitrary objects given a reference CAD model. We expect the model to achieve robust performance across diverse scenes.

- **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.