Junxuan Liang

whitefork@sjtu.edu.cn https://hitefork.github.io hitefork

RESEARCH INTERESTS

My research interests mainly lie in **Embodied AI**. I am now focusing on the application of **diffusion models**, exploring its potential for **human motion generation and human motion control**. I also have a background in human motion analysis, video object segmentation.

EDUCATION

SEIEE, Shanghai Jiao Tong University — Shanghai, China
B.Eng. in Computer Science, Zhiyuan Honors Program of Engineering — Sept 2022 – Present
Core Courses: Machine Learning, Computational Theory, Modern Opertaing System

PUBLICATIONS

ImDy: Human Inverse Dynamics from Imitated Observations
Xinpeng Liu, Junxuan Liang, Zili Lin, Haowen Hou, Yong-Lu Li*, Cewu Lu* (*=corresponding authors).
Under review as a conference paper at ICLR 2025. [foruck.github.io/ImDy/] [Arxiv:2410.17610]

Homogeneous Dynamics Space for Heterogeneous Humans
Xinpeng Liu, Junxuan Liang, Chenshuo Zhang, Zixuan Cai, Cewu Lu*, Yong-Lu Li*(*=corresponding authors).
Under review as a conference paper. [foruck.github.io/HDyS/] [Arxiv:2412.06146]

M^3-VOS: Multi-Phase, Multi-Transition, and Multi-Scenery Video Object Segmentation
Zixuan Chen, Jiaxin Li, Liming Tan, Yejie Guo, Junxuan Liang, Cewu Lu, Yong-Lu Li*(*=corresponding authors).
Under review as a conference paper. [M-cube-VOS.github.io/] [Arxiv:2412.13803]

EXPERIENCE

Shanghai Jiao Tong University - Machine Vision and Intelligence Group — Shanghai, China
Undergraduate Research Assistant - Supervisor: *Prof*. Cewu Lu and *Prof*. Yong-Lu Li — June 2022 – Present

- Exploited the recently progressive human motion imitation algorithms to train a data-driven human inverse dynamics solver in a fully supervised manner
- Proposed a fundamental reusable space HDyS for human dynamics by unifying the heterogeneity
- built a video object segmentation benchmark focused on object phase transitions

Shanghai Jiao Tong University - Department of Electrical Engineering — Shanghai, China
Undergraduate Research Assistant - Supervisor: *Prof*. Xiaoyuan Xu — Feb 2022 – June 2022

- Proposed a distributed photovoltaic state monitoring model based on sparse coding, and distributed robust logistic regression algorithms

SELECTED AWARDS

Zhiyuan Honors Program Scholarship, SJTU, Shanghai, China	2023
Third-Class Scholarship, SJTU, Shanghai, China	2024
Academic Progress Scholarship, SJTU, Shanghai, China	2025
Merit Student (top 3%), SJTU, Shanghai, China	2024
Meritorious Winner of Mathematical Contest In Modelling (Top 6.6%), America	2024
Outstanding Winner of Electronic&Electrical Engineering Innovation Competition, China	2024

SKILLS

- **Languages:** English (CET6 528), Native Cantonese & Mandarin
- **Programming:** Python(Pytorch), C/C++, Linux, Nimble Physics, Latex, Typst