Han Liang

Ph.D. candidate, ShanghaiTech University

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About Me

I'm now a Ph.D. student at VRVC Lab, ShanghaiTech University, working with Prof. Lan Xu and Prof. Jinyi Yu on digital humans. Before that, I obtained my B.E. in software engineering from UESTC.

My research focuses on the intersection of graphics, vision, and robotics. My ultimate aspiration is to build human-centered embodied AI agents that liberate us human beings from the tedious and heavy work.

I expect to defend my Ph.D. in 2025, and I'm open to any opportunities for cooperation and discussions. If you are interested, please don't hesitate to contact me.

Research Interests

Fields: Computer Vision, Graphics, Robotics

Topics: Behavior analysis, LLM for robotics, Embodied agents

Education

ShanghaiTech University Sep 2020 - 2025 (expected)
Ph.D. in Computer Science *Advisor: Prof. Lan Xu & Prof. Jingyi Yu*

University of Electronic Science and Technology of China Sep 2014 - Jun 2018
B.E. in Software Engineering Rank 7/134 *Advisor: Prof. Qiao Liu*

Selected Publications (complete list)

[1] **Media2Face: Co-speech Facial Animation Generation With Multi-Modality Guidance**
Qingcheng Zhao, Pengyu Long, Qixuan Zhang, Dafei Qin, **Han Liang**, Longwen Zhang, Jingyi Yu, Lan Xu
Arxiv Preprint, 2024

[2] **OMG: Towards Open-vocabulary Motion Generation via Mixture of Controllers**
Han Liang, Jiacheng Bao, Ruichi Zhang, Sihan Ren, Sibei Yang, Xin Chen, Jingyi Yu, Lan Xu
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024

[3] **InterGen: Diffusion-based Multi-human Motion Generation under Complex Interactions**
Han Liang, Wenqian Zhang, Wenxuan Li, Jingyi Yu, Lan Xu
International Journal of Computer Vision (IJCV), 2024

[4] **HybridCap: Inertia-aid monocular capture of challenging human motions**
Han Liang, Yannan He, Chengfeng Zhao, Mutian Li, Jingya Wang, Jingyi Yu, Lan Xu
AAAI Conference on Artificial Intelligence (AAAI), 2023

[5] **LiDAR-aid Inertial Poser: Large-scale Human Motion Capture by Sparse Inertial and LiDAR Sensors**
Yiming Ren, Chengfeng Zhao, Yannan He, Peishan Cong, **Han Liang**, Jingyi Yu, Lan Xu, Yuexin Ma
IEEE Transactions on Visualization and Computer Graphics (TVCG), 2023

[6] **ChallenCap: Monocular 3d capture of challenging human performances using multi-modal references**
Yannan He, Anqi Pang, Xin Chen, **Han Liang**, Minye Wu, Yuexin Ma, Lan Xu
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021

Awards

National Doctorial Scholarship 2024

National Encouragement Scholarship 2016

Experience

DGene Inc. Jun 2021 - May 2022
Research Intern *Supervisor: Dr. Yingliang Zhang*

Dilusense Inc. Jul 2018 - Jun 2020
3D Vision R&D *Supervisor: Prof. Juyong Zhang*

Graphics&Geometric Computing Laboratory, USTC Oct 2017 - Jun 2018
Visiting Student *Supervisor: Prof. Ligang Liu*

Projects

[1] **Monocular Full-body Mocap for Real-time Streaming.** Achieving fine-grained capture of the upper body, face, and hands using a single camera. The system has been integrated into the Bilibili Live streaming pipeline. (Demo)

[2] **Sparse-view Real-time Full-body Mocap System.** We propose a lightweight real-time markerless mocap system. With even only three consumer-grade web cameras, the system achieves close industry-level accuracy. This system is now integrated into the BiliBili virtual Live mocap pipeline. (Demo)

[3] **NIR+VIS+Depth Multi-modal 3D Face Recognition System.** A method based on a latent variable model was proposed, and the recognition top-1 hit ratio of 1:0.5 million closed-set tests was improved from 91.62% to 96.37%. This system has been applied to the Zhuhai-HongKong-Macao Bridge national project and railway stations in Hefei, Urumqi, and other cities.

Professional Services

Conference reviewer

ICCV, AAAI, CVPR, WACV

Teaching

Teaching Assistance

CS280 Deep Learning *Instructor: Prof. Xuming He & Prof. Lan Xu*

CS283 Robotics *Instructor: Prof. Laurent Kneip & Prof. Sören Schwertfeger*

Skills

Programming Languages

Python (Pytorch, Pearl, and so on.)

C++ (OpenCV, CUDA, and so on.)

Softwares

Visual Studio, Pycharm, Jupyter Notebook

Unity, Blender, Maya

Adobe Photoshop, Premiere