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WENBO GOU

EDUCATION

Carnegie Mellon University, CMU **Pittsburgh, PA**
Master of Science in Electrical and Computer Engineering - Applied Advanced   Jan 2023-May 2024
Grade: 3.93/4.0

Core Courses: *Intro to Deep Learning; Optimization; Advanced Computer Vision; Visual Learning and Recognition; Estimation, Detection and Learning; Speech Recognition and Understanding*

Huazhong University of Science and Technology, HUST **Wuhan, China**
Bachelor of Engineering in Electronic Information Engineering   Sep 2018-June 2022
Grade: 3.84/4.0

Core Courses: *Digital Signal Processing; Digital Image Processing; Intro to Machine Learning; Multimedia Technology; Video Processing and Communications*

WORK EXPERIENCE

Human Sensing Lab(HSL), Robotics Institute, Carnegie Mellon University **Pittsburgh, PA**
Research Assistant, supervised by Prof Fernando De la Torre   Jun 2024-Current
Developing single view real-time whole body Human Mesh Recovery(HMR) system.

School of Data Science, Chinese University of Hong Kong, Shenzhen **Shenzhen, China**
Research Assistant, supervised by Prof Ruimao Zhang   Jul-Dec 2022
Collaborated on *FreeMan: Towards Benchmarking 3D Human Pose Estimation in the Wild* (CVPR 24 poster) as third author, in charge of single view Human Pose Estimation model benchmarking, evaluation and participated data collection.

RESEARCH & PROJECTS

Graph Guided Human/Hand Mesh Reconstruction with Mamba Model **Pittsburgh, PA**
CMU, HSL ,supervised by Prof Fernando & postdoc Haoye Dong   Mar-Sep 2024

Incorporating Human Mesh Recovery and hand mesh reconstruction task with Mamba model to improve overall inference speed and accuracy, achieving SOTA results. Co-first author of *Hamba: Single-view 3D Hand Reconstruction with Graph-guided Bi-Scanning Mamba* (NeurIPS 24 poster)

Realtime Monocular View 3D Human Pose Estimation **Pittsburgh, PA**
CMU, HSL, supervised by Prof Fernando & scientist Francisco Vicente.   Aug 2023-Feb 2024

Proposed lightweight detector based 3D HPE framework, achieving accurate real-time pose estimation. In charge of model training, camera calibration, multithread acceleration and body-hand model integration.

Saliency Map based 360 Video Viewport Prediction **Wuhan, China**
HUST, Supervised by Professor Peng Yang, Bachelor Thesis   Jan-June 2022
Proposed *SimpConv* model, able to leverage spatial-temporal information from saliency map sequence with ConvLSTM structure. Outperformed current model by 20% on accuracy and 50% on speed.

SNEAK: Synonymous Sentences-Aware Adversarial Attack on Natural Language Video Localization(NLVL) **Wuhan, China**
HUST, supervised by Prof Pan Zhou and Prof Jian Lou   May-Nov 2021
Proposed a two-stage NLVL model attacking pipeline for practical training. Implemented attacking code, conducted experiments to improve attacking performance and model robustness. Finished paper as co-first author, in charge of experiment section.

SKILLS

Programming Languages: Intermediate-Python; Proficient-pytorch; Intermediate-MATLAB

Machine Learning: DNN, LSTM, Transformer, Diffusion model, Mamba model

Languages: Fluent English; Native-Speaker Chinese Mandarin