JINGBO WANG

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EDUCATION

The Chinese University of Hong Kong, Hong Kong   *August 2020 - Now*
Multimedia Lab, Information Engineering
Ph.D. Student (Supervised by Prof. Dahua Lin),
Department of Information Engineering

Peking University, Beijing, China   *September 2016 - July 2019*
Intelligence Science and Technology
Master of Science (Supervised by Prof. Gang Zeng),
Key Laboratory of Machine Perception,
School of Electronics Engineering and Computer Science (EECS)

Beijing Institute of Technology, Beijing, China   *September 2012 - July 2016*
Information and Computing Science
Bachelor of Science,
School of Mathematics

RESEARCH EXPERIENCE

Research on 3D Human: We explore different methods to model 3D human. Firstly, we introduce our motion encoding to additional supervisions for video based 3D pose estimation. Secondly, we revisit the 3D human motion synthesis methods and then introduce scene context and the diverse planning module into this task to model long-term, diverse, and natural human motions in different real-world scenes. At last, we try to solve the hand-wise occlusion and penetration issues for 3D interacting hands reconstruction, with the multi-view images and factorized iteration refinement, respectively.

Research on Scene Understanding: We mainly focus on semantic segmentation for scene understanding. The research can be separated into three aspects. The first one is that we build up the real-time segmentation framework. The second aspect is that we explore the effectiveness of depth information for semantic segmentation(e.g., the influence of depth on the receptive field and features from CNN). At last, we extend the methods to different tasks on 3D data, such as point clouds and TSDF.

PUBLICATIONS

Towards Diverse and Natural Scene-aware Human Motion Synthesis
Jingbo Wang, Yu Rong, Jingyuan Liu, Sijie Yan, Dahua Lin, Bo Dai
In submission

Cross-View 3D Interacting Hands Reconstruction by Exploiting View-Invariant Clues
Jingbo Wang, Yu Rong, Hengshuang Zhao, Philip Torr, Dahua Lin, Bo Dai
In submission

Monocular 3D Reconstruction of Interacting Hands via Collision-Aware Factorized Refinements
Yu Rong, **Jingbo Wang**, Ziwei Liu, Chen Change Loy
International Conference on 3D Vision (3DV), 2021

Scene-aware Generative Network for Human Motion Synthesis
Jingbo Wang, Sijie Yan, Bo Dai, Dahua Lin
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021

Motion Guided 3D Pose Estimation from Videos
Jingbo Wang, Sijie Yan, Yuanjun Xiong, Dahua Lin
IEEE European Conference on Computer Vision (ECCV), 2020

Not All Voxels Are Equal: Semantic Scene Completion from the Point-Voxel Perspective
Jiaxiang Tang*, Xiaokang Chen*, **Jingbo Wang***, Gang Zeng ('*' Equal Contribution)
AAAI Conference on Artificial Intelligence (AAAI), 2022

Group Contextual Encoding for 3D Point Clouds
Xu Liu, Chengtao Li, Jian Wang, **Jingbo Wang**, Boxin Shi, and Xiaodong He
Advances in Neural Information Processing Systems (NeurIPS), 2020

Malleable 2.5D Convolution: Learning Receptive Fields along the Depth-axis for RGB-D Scene Parsing
Yajie Xing, **Jingbo Wang**, Gang Zeng
IEEE European Conference on Computer Vision (ECCV), 2020

Bi-directional Cross-Modality Feature Propagation with Separation-and-Aggregation Gate for RGB-D Semantic Segmentation
Xiaokang Chen, Kwan-Yee Lin,**Jingbo Wang**, Wayne Wu, Chen Qian, Hongsheng Li, and Gang Zeng
IEEE European Conference on Computer Vision (ECCV), 2020

Context Prior for Scene Segmentation
Changqian Yu, **Jingbo Wang**, Changxin Gao, Gangyu, Chunhua Shen and Nong Song
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020

An End-to-End Network for Panoptic Segmentation
Huanyu Liu, Chao Peng, Changqian Yu, **Jingbo Wang**, Xu Liu, Gang Yu, Wei Jiang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019

BiSeNet: Bilateral Segmentation Network for Real-time Semantic Segmentation
Changqian Yu*, **Jingbo Wang***, Chao Peng, Changxin Gao, Gang Yu, Nong Sang ('*' Equal Contribution)
IEEE European Conference on Computer Vision (ECCV), 2018

Learning a Discriminative Feature Network for Semantic Segmentation
Changqian Yu, **Jingbo Wang**, Chao Peng, Changxin Gao, Gang Yu, Nong Sang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018

HONORS AND AWARDS

Winner of COCO2018 and Mapillary Panoptic Segmentation Competitions *September 2018*
Peking University and Megvii(Face++),inc., Beijing, China

WORKING EXPERIENCE

Information Engineering, The Chinese University of Hong Kong   August 2019 - July 2020

Supervised by Prof. Dahua Lin at MMLab. Junior Research Assistant
- Research of human pose estimation, especially in 3D human pose estimation of video data.

Momenta, inc.   March 2019 - July 2019

Leaded by Mr. Chao Peng. Computer Vision Researcher Internship

- Research of general object segmentation, especially based on RGBD or 3D data in 3D scene.

Detection Group, Megvii (Face++), inc. June 2017 - March 2019

Supervised by Dr. Gang Yu. Computer Vision Researcher Internship

- Research of general object segmentation, especially in Semantic Segmentation, Scene Parsing, and Video Segmentation.

ACADEMIC ACTIVITIES

Serve as the reviewer for NeurIPS 2021, ICCV 2019/2021, CVPR 2019/2020/2021, ECCV 2020, AAAI 2020/2021.

Serve as the guest reviewer for IJCV.

TECHNICAL STRENGTHS

Computer Languages	Python, C/C++
Software & Tools	CUDA, LaTeX, MatLab
Deep Learning Framework	Pytorch, Caffe