

Xiaoxuan Ma

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Education

Ph.D. Candidate in Computer Science

09 / 2021 – 07 / 2025 (expected)

School of Computer Science, Peking University

Advisor: Prof. [Yizhou Wang](#)

M.S. in Computer Science

09 / 2018 – 07 / 2021

School of Electronics Engineering and Computer Science, Peking University

Advisor: Prof. [Yizhou Wang](#)

B.S. in Computer Science

09 / 2014 – 07 / 2018

School of Electronics Engineering and Computer Science, Peking University

Research Interest

- Intersection of Computer Vision and Computer Graphics, 3D Vision, Human Modeling
- CV for Animals, Animal Behavior Understanding

Research Experience

Research Intern

01 / 2022 – 08 / 2022

Intelligent Multimedia Group, Microsoft Research Asia (MSRA)

Host: [Chunyu Wang](#)

- 3D Human Modeling

Preprints & Under Review

1. AlphaChimp: Tracking and Behavior Recognition of Chimpanzees. arXiv preprint arXiv:2410.17136. **Xiaoxuan Ma**^{*}, Yutang Lin^{*}, Yuan Xu, Stephan P. Kaufhold, Jack Terwilliger, Andres Meza, Yixin Zhu, Federico Rossano, Yizhou Wang
2. VMarker-Pro: Probabilistic 3D Human Mesh Estimation from Virtual Markers. arXiv preprint arXiv:2303.11726v3. **Xiaoxuan Ma**, Jiajun Su, Yuan Xu, Wentao Zhu, Chunyu Wang, Yizhou Wang.
3. SAT-HMR: Real-Time Multi-Person 3D Mesh Estimation via Scale-Adaptive Tokens. arXiv preprint arXiv:2411.19824.  **36 Stars**
Chi Su[†], **Xiaoxuan Ma**, Jiajun Su, Yizhou Wang
4. FreeCloth: Free-form Generation Enhances Challenging Clothed Human Modeling. arXiv preprint arXiv:2411.19942.
Hang Ye[†], **Xiaoxuan Ma**, Hai Ci, Wentao Zhu, Yizhou Wang

5. Efficient Action Counting with Dynamic Queries. arXiv preprint arXiv:2403.01543.
Zishi Li^{*}†, **Xiaoxuan Ma**^{*}, Qiuyan Shang[†], Wentao Zhu, Hai Ci, Yu Qiao, Yizhou Wang

* equal contribution. † students mentored by me.

Publications

1. Human Motion Generation: A Survey. **IEEE TPAMI** (vol. 46, no. 4), 2024. (IF=20.8)
Wentao Zhu^{*}, **Xiaoxuan Ma**^{*}, Dongwoo Ro^{*}, Hai Ci, Jinlu Zhang, Jiaxin Shi, Feng Gao, Qi Tian, Yizhou Wang
2. Real-time Holistic Robot Pose Estimation with Unknown States. **ECCV**, 2024.  22 Stars
Shikun Ban[†], Juling Fan[†], **Xiaoxuan Ma**, Wentao Zhu, Yu Qiao, Yizhou Wang
3. ScoreHypo: Probabilistic Human Mesh Estimation with Hypothesis Scoring. **CVPR**, 2024.  23 Stars
Yuan Xu[†], **Xiaoxuan Ma**, Jiajun Su, Wentao Zhu, Yu Qiao, Yizhou Wang
4. Scaling Up Dynamic Human-Scene Interaction Modeling. **CVPR**, 2024.  136 Stars
Nan Jiang^{*}, Zhiyuan Zhang^{*}, Hongjie Li, **Xiaoxuan Ma**, Zan Wang, Yixin Chen, Tengyu Liu, Yixin Zhu, Siyuan Huang
5. ChimpACT: A Longitudinal Dataset for Understanding Chimpanzee Behaviors. **NeurIPS**, 2023.  17 Stars
Xiaoxuan Ma^{*}, Stephan P. Kaufhold^{*}, Jiajun Su^{*}, Wentao Zhu, Jack Terwilliger, Andres Meza, Yixin Zhu, Federico Rossano, Yizhou Wang
6. Social Motion Prediction with Cognitive Hierarchies. **NeurIPS**, 2023.  32 Stars
Wentao Zhu^{*}, Jason Qin^{*†}, Yuke Lou[†], Hang Ye[†], **Xiaoxuan Ma**, Hai Ci, Yizhou Wang
7. Learning Human Motion Representations: A Unified Perspective. **ICCV**, 2023.  1.1k Stars
Wentao Zhu, **Xiaoxuan Ma**, Zhaoyang Liu, Libin Liu, Wayne Wu, Yizhou Wang
8. 3D Human Mesh Estimation from Virtual Markers. **CVPR**, 2023.  262 Stars
Xiaoxuan Ma, Jiajun Su, Chunyu Wang, Wentao Zhu, Yizhou Wang.
9. GfPose: Learning 3D Human Pose Prior with Gradient Fields. **CVPR**, 2023.  127 Stars
Hai Ci, Mingdong Wu, Wentao Zhu, **Xiaoxuan Ma**, Hao Dong, Fangwei Zhong, Yizhou Wang.
10. Virtual Pose: Learning Generalizable 3D Human Pose Models from Virtual Data. **ECCV**, 2022.  66 Stars
Jiajun Su, Chunyu Wang, **Xiaoxuan Ma**, Wenjun Zeng, Yizhou Wang.
11. Locally Connected Network for Monocular 3D Human Pose Estimation. **IEEE TPAMI** (vol. 44, no. 3), 2022. (IF=23.6)
Hai Ci^{*}, **Xiaoxuan Ma**^{*}, Chunyu Wang, Yizhou Wang.
12. Context Modeling in 3D Human Pose Estimation: A Unified Perspective. **CVPR**, 2021.  48 Stars
Xiaoxuan Ma^{*}, Jiajun Su^{*}, Chunyu Wang, Hai Ci, Yizhou Wang.
13. Optimizing Network Structure for 3D Human Pose Estimation. **ICCV**, 2019.  42 Stars
Hai Ci, Chunyu Wang, **Xiaoxuan Ma**, Yizhou Wang.

* equal contribution. † students mentored by me.

Selected Awards and Honors

- Outstanding Student, Peking University

2024

- Industrial Bank Scholarship, Peking University 2024
- The Third Prize Scholarship, Peking University 2023
- Award for Scientific Research, Peking University 2023
- Award for Scientific Research, Peking University 2022
- Grand Prize of the 29th Challenge Cup, Peking University 2021
- Cushman & Wakefield Scholarship, Peking University 2020
- Outstanding Student, Peking University 2020
- Outstanding Undergraduate Thesis, Peking University 2018

Professional Services

Journal Reviewer: IEEE TPAMI, IJCV, IEEE TMM

Conference Reviewer: CVPR, ICCV, ECCV, NeurIPS, ICLR, AAAI, ICML

Teaching

- PKU Turing Class of 2017 (Counselor) 2018 - 2021
- Advisor: Prof. [Jiaying Liu](#)
- Computational Vision (TA, Taught in English) Fall 2019
- Instructor: Prof. [Yizhou Wang](#) from PKU
- Machine Learning for Time Series Analysis – Statistical Models and Deep Learning (TA, Taught in English) Summer 2018
- Instructor: Prof. [Yan Liu](#) from USC
- Computation, Economics and Data Science (TA, Taught in English) Summer 2018
- Instructor: Prof. [Yang Cai](#) from Yale

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