Xiaoxuan Ma

✉ Email: maxiaoxuan@pku.edu.cn

🏠 Homepage   🎓 Google Scholar   ⭘ Github   in LinkedIn

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

Work Experience

Research Intern   *01 / 2022 – 08 / 2022*
Intelligent Multimedia Group, Microsoft Research Asia (MSRA)
Host: Chunyu Wang

- 3D Human Modeling

Preprints

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
Workshop Organizer:
CVPR 2025 5th Workshop on "CV4Animals: Computer Vision for Animal Behavior Tracking and Modeling"

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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