Tianyu Luan

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Profile

Tianyu Luan is a research manager at Accenture. He received his Ph.D. in Computer Science at the State University of New York at Buffalo, Buffalo, NY, United States, advised by Prof. Junsong Yuan. He received a B.S. in Applied Physics at University of Science and Technology of China, and M.Eng. in Electronic and Telecommunication Engineering at Tsinghua University, China. His research interest lies in 3D reconstruction, generation, and evaluation. He serves as a conference reviewer/program committee member in CVPR, ICCV, ECCV, AAAI, IJCAI, and ACM MM. He also serves as a journal reviewer for T-PAMI, T-CSVT, MVA, and T-MM.

Education

2021-2025 **State University of New York at Buffalo**, Buffalo, NY, United States

Department of Computer Science and Engineering.
Ph.D. in Computer Science.
Thesis: Human-aligned High-fidelity 3D Shape Evaluation and Hand Reconstruction.

2014-2017 **Tsinghua University**, Beijing, China

Department of Electrical Engineering.
M.Eng. in Electronic Engineering.
Research topic: Visual Light Communication.

2009-2013 **University of Science and Technology of China**, Hefei, China

Department of Modern Physics.
B.S. in Applied Physics.

Experiences

Jun. 2025 - **Accenture**, Mountain View, CA, United States
Research Manager.

LLM-based Multi-agent System.

Jun. 2024 - **Pixocial**, Bellevue, WA, United States
Aug. 2024 *Research Intern. Worked with Dr. Haoxiang Li.*

3D human generation.

Feb. 2024 - **United Imaging Intelligence**, Burlington, MA, United States
May. 2024 *Research Intern. Worked with Dr. Zhongpai Gao and Dr. Ziyan Wu.*

3D human hand reconstruction.

May. 2023 - **United Imaging Intelligence**, Cambridge, MA, United States
Aug. 2023 *Research Intern. Worked with Dr. Zhongpai Gao and Dr. Ziyan Wu.*

3D human body reconstruction.

May. 2022 -	**OPPO Research**, Palo Alto, CA, United States
Aug. 2022	*Research Intern. Worked with Dr. Zhong Li and Dr. Yi Xu.*
	3D hand reconstruction & mesh detailed evaluation.

Jul. 2019 -	**Chinese Academy of Science**, Shenzhen, Guangdong, China
Jun. 2021	*Research Assistant. Worked with Prof. Yali Wang and Prof. Yu Qiao.*
	3D human body reconstruction & pose estimation.

Jun. 2017 -	**HUAWEI Technology Co. Ltd.**, Shenzhen, Guangdong, China
Apr. 2019	*Multimedia Algorithm Engineer.*
	3D human face/object reconstruction R&D.

Teaching

- 21 Fall, Teaching Assistant, Computer Vision and Image Processing (CSE 573), University at Buffalo.
- 22 Spring, Teaching Assistant, Computer Vision and Image Processing (CSE 573), University at Buffalo.
- 22 Spring, Guest Instructor, Seminar (on Computer Vision)(CSE 710), University at Buffalo.
- 22 Fall, Teaching Assistant, Computer Vision and Image Processing (CSE 573), University at Buffalo.
- 24 Fall, Teaching Assistant, Computer Vision and Image Processing (CSE 573), University at Buffalo.
- 25 Spring, Teaching Assistant, Computer Vision and Image Processing (CSE 573), University at Buffalo.

Services

- Conference Review: CVPR'23'24'25, ICCV'23'25, ECCV'24, ACM MM'24'25, AAAI'25, IJCAI'25, NeurIPS'25.
- Journal Review: T-PAMI, T-CSVT, MVA, T-MM.

Publication List

2025

[1]. Tianyu Luan, Yuanhao Zhai, Jingjing Meng, Zhong Li, Zhang Chen, Yi Xu, and Junsong Yuan, "Scalable High-Fidelity 3D Hand Shape Reconstruction Via Graph-Image Frequency Mapping and Graph Frequency Decomposition." *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, doi: 10.1109/ TPAMI.2025.3554516.

[2]. Luyuan Xie, Tianyu Luan, Wenyuan Cai, Guochen Yan, Zhaoyu Chen, Nan Xi, Yuejian Fang, Qingni Shen, Zhonghai Wu, and Junsong Yuan. "dFLMoE: Decentralized Federated Learning via Mixture of Experts for Medical Data Analysis." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2025.

2024

[3]. Luyuan Xie, Manqing Lin, ChenMing Xu, Tianyu Luan, Zhipeng Zeng, Wenjun Qian, Cong Li, Yuejian Fang, Qingni Shen, and Zhonghai Wu. "MH-pFLGB: Model-Heterogeneous Personalized Federated Learning via Global Bypass for Medical Image Analysis." *International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*. Cham: Springer Nature Switzerland, 2024.

[4]. Luyuan Xie, Manqing Lin, Siyuan Liu, ChenMing Xu, Tianyu Luan, Cong Li, Yuejian Fang, Qingni Shen, and Zhonghai Wu. "pFLFE: Cross-Silo Personalized Federated Learning via Feature Enhancement on Medical Image Segmentation." *International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*. Cham: Springer Nature Switzerland, 2024.

[5]. Tianyu Luan, Zhongpai Gao, Luyuan Xie, Abhishek Sharma, Hao Ding, Benjamin Planche, Meng Zheng, Ange Lou, Terrence Chen, Junsong Yuan, and Ziyan Wu. "Divide and Fuse: Body-Part Mesh Recovery from Partially Visible Human Images." *European Conference on Computer Vision (ECCV)*. Cham: Springer Nature Switzerland, 2024.

[6]. Yuheng Li, Tianyu Luan, Yizhou Wu, Shaoyan Pan, Yenho Chen, and Xiaofeng Yang. "AnatoMask: Enhancing Medical Image Segmentation with Reconstruction-Guided Self-masking." *European Conference on Computer Vision (ECCV)*. Cham: Springer Nature Switzerland, 2024.

[7]. Tianyu Luan, Zhong Li, Lele Chen, Xuan Gong, Lichang Chen, Yi Xu, and Junsong Yuan. "Spectrum AUC Difference (SAUCD): Human-Aligned 3D Shape Evaluation." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2024.

[8]. Xianzu Wu, Xianfeng Wu, Tianyu Luan, Yajing Bai, Zhongyuan Lai, and Junsong Yuan. "FSC: Few-Point Shape Completion." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2024.

[9]. Ange Lou, Benjamin Planche, Zhongpai Gao, Yamin Li, Tianyu Luan, Hao Ding, Terrence Chen, Jack Noble, and Ziyan Wu. "DaReNeRF: Direction-aware Representation for Dynamic Scenes." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2024.

[10]. Luyuan Xie, Manqing Lin, Tianyu Luan, Cong Li, Yuejian Fang, Qingni Shen, and Zhonghai Wu. "MH-pFLID: Model-Heterogeneous Personalized Federated Learning via Injection and Distillation for Medical Data Analysis." *Proceedings of the 41st International Conference on Machine Learning (ICML)*. 2024.

2023

[11]. Yuanhao Zhai, Mingzhen Huang, Tianyu Luan, Lu Dong, Ifeoma Nwogu, Siwei Lyu, David Doermann, and Junsong Yuan. "Language-Guided Human Motion Synthesis with Atomic Actions." *Proceedings of the 31st ACM International Conference on Multimedia (ACM MM)*. 2023.

[12]. Yuanhao Zhai, Tianyu Luan, David Doermann, and Junsong Yuan. "Towards Generic Image Manipulation Detection with Weakly-Supervised Self-Consistency Learning." *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*. 2023.

[13]. Tianyu Luan, Yuanhao Zhai, Jingjing Meng, Zhong Li, Zhang Chen, Yi Xu, and Junsong Yuan. "High Fidelity 3D Hand Shape Reconstruction via Scalable Graph Frequency Decomposition." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2023.

2021

[14]. Junhao Zhang, Yali Wang, Zhipeng Zhou, Tianyu Luan, Zhe Wang, and Yu Qiao. "Learning Dynamical Human-Joint Affinity for 3D Pose Estimation in Videos." *IEEE Transactions on Image Processing (T-IP)* 30: 7914-7925. 2021.

[15]. Tianyu Luan, Yali Wang, Junhao Zhang, Zhe Wang, Zhipeng Zhou, and Yu Qiao. "PC-HMR: Pose Calibration for 3D Human Mesh Recovery from 2D Images/Videos." *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*. 2021.