

Experience

National University of Singapore	SINGAPORE
Research Fellow	2022.11 – present
Research Associate	2020.8 – 2022.11
University of Bonn	BONN, GERMANY
Research Assistant	2018.3 – 2020.5

Education

University of Bonn	BONN, GERMANY
Advisor/Co-Advisor: Prof. Angela Yao/Prof. Reinhard Klein	
Ph.D. degree in Computer Science	2018.5 – 2022.11
Beihang University	BEIJING, CHINA
Advisor: Prof. Baochang Zhang	
Master degree in Pattern Recognition and Intelligent System	2014.9 – 2017.6
National Scholarship for Graduate Students (2017)	
Beihang University	BEIJING, CHINA
Bachelor degree in Automation Science and Electrical Engineering	2009.9 – 2013.9
Beijing Outstanding Graduate Awards (2013)	

Research Interests

Computer Vision and Machine Learning, including 3D Pose Estimation, Multi-/Cross-modal Learning, Semi-/Self-Supervised Learning, Binary Neural Networks.

Professional Services

I am an organizer of 6th HANDS workshop (in conjunction with ECCV2022). and a reviewer for various conferences and journals including CVPR, ICCV, ECCV, AACL, IJCAI, IEEE TMM, IEEE SMC.

Selected Publications

My name in **bold**, # indicates equal contribution.

- **Linlin Yang**, Shicheng Chen and Angela Yao. SemiHand: Semi-supervised Hand Pose Estimation with Consistency[C]. *International Conference on Computer Vision (ICCV)*. 2021.
 - **Linlin Yang**#, Shile Li#, Dongheui Lee and Angela Yao. Aligning Latent Spaces for 3D Hand Pose Estimation[C]. *International Conference on Computer Vision(ICCV)*. 2019.
 - **Linlin Yang** and Angela Yao. Disentangling Latent Hands for Image Synthesis and Pose Estimation[C]. *IEEE Conference on Computer Vision and Pattern Recognition(CVPR)*. 2019.
 - Qiyuan He#, **Linlin Yang**#, Kerui Gu, Qiuxia Lin, Angela Yao. Analyzing and Diagnosing Pose Estimation with Attribution[C]. *IEEE Conference on Computer Vision and Pattern Recognition(CVPR)*. 2023.
 - Qiuxia Lin#, **Linlin Yang**# and Angela Yao. Cross-domain 3D Hand Pose Estimation with Dual Modalities[C]. *IEEE Conference on Computer Vision and Pattern Recognition(CVPR)*. 2023.
 - Shihao Zhang, **Linlin Yang**, Michael Bi Mi, Xiaoxu Zheng, Angela Yao. Improving Deep Regression with Ordinal Entropy[C]. *International Conference on Learning Representations (ICLR)*. 2023.
 - Ziwei Yu, **Linlin Yang**, You Xie, Ping Chen, Angela Yao. UV-Based 3D Hand-Object Reconstruction with Grasp Optimization[C]. *British Machine Vision Conference (BMVC)*. 2022.
 - Kerui Gu, **Linlin Yang**, Angela Yao. Dive Deeper Into Integral Pose Regression[C]. *International Conference on Learning Representations (ICLR)*. 2022.
 - Kerui Gu, **Linlin Yang** and Angela Yao. Removing the Bias of Integral Pose Regression[C]. *International Conference on Computer Vision (ICCV)*. 2021.
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Projects

- Learning with Less Labels for Pose Estimation

Instead of seeking more accurate labelled data, we aim to find auxiliary information to aid the representation learning and relieve the burden of annotation for 3D pose estimation. Especially, we explore to use consistencies within the data itself to act as a label for learning.

- Training with Multi-Modal Data for Pose Estimation

Real-world data usually comes with multiple modalities. We would like to explore the advantages of different modalities and exploit them for different application scenarios. Moreover, as modalities are representations in different aspects, we aim to explore cross-modal prediction and additional modalities as auxiliary information.

- Modeling Ambiguity with Generative Models for Pose Estimation

For 3D pose and shape estimation, multiple solutions are often feasible due to ambiguities like occlusion, depth ambiguity and annotation error. However, existing benchmarks and (deterministic) methods only provide one solution. Instead, we aim to find possible solutions with generative models based on the input evidence.

- Interpreting and Improving Deep Models for Pose Estimation

State-of-the-art pose estimation methods perform impressively on benchmarks but are difficult to compare beyond differences in average end-point-error (EPE). Averaged results on large-scale benchmarks depend on the underlying data distribution and tend to obscure the behaviour of pose estimation systems. As such, we are motivated to find alternative ways to interpret and diagnose existing methods and eventually improve the methods accordingly.

- Compressing and Searching Deep Models for Edge Devices

With the rapid development of deep learning, the performance of deep models far exceeds that of early methods with the support of large-scale datasets and complex network structures. However, deep models are often difficult to deploy on edge devices like mobile or embedded devices. Our goal is to either directly search for edge-device-friendly models or compress and quantize existing deep models for edge devices.