

Ailing Zeng

International Digital Economy Academy,
Shenzhen, China
☎ +86 13005414090
✉ ailingzengzzz@gmail.com
🌐 <https://ailingzeng.site>



Employment

Apr.2022- **Researcher**, *International Digital Economy Academy (IDEA)*
Now Working on Human-centric visual perception, interaction, and generation.

Research Area

- 1. Human-centric visual understanding and perception, including human pose estimation, reconstruction, animation, and neural rendering;
- 2. Human-centric image, video, motion, avatar generation for artificial creation;
- 3. Human-in-the-loop interaction methods with minimal user efforts;
- 4. Spatial-temporal time series analysis and modeling.

Education

2017.08- **Ph.D.**, *Department of Computer Science & Engineering*, The Chinese University of
2022.02 Hong Kong, Hong Kong SAR
Full Postgraduate Studentship, Supervisor: Qiang Xu
2013.09- **B.Eng., Electronic Engineering / Finance mathematics**, *Xiamen University*,
2017.06 Xiamen, China
School Ranking: 1/95

Publication

First author or *Equal contribution:

- AAAI 2023 **Are Transformers Effective for Time Series Forecasting?**
Oral **Ailing Zeng**, Muxi Chen, Lei Zhang, Qiang Xu, Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI), 2023
- ICCV 2023 **HumanSD: A Native Skeleton-Guided Diffusion Model for Human Image Generation**
Oral **Ailing Zeng***, Xuan Ju*, Chenchen Zhao*, Jianan Wang, Lei Zhang, Qiang Xu, The Thirty-Fourth IEEE/CVF Conference on International Conference on Computer Vision (ICCV), 2023
- ECCV 2022 **DeciWatch: A Simple Baseline for 10× Efficient 2D and 3D Pose Estimation**
Ailing Zeng, Xuan Ju, Lei Yang, Ruiyuan Gao, Xizhou Zhu, Bo Dai, Qiang Xu, European Conference on Computer Vision (ECCV), 2022

ECCV 2022 **SmoothNet: A Plug-and-Play Network for Refining Human Poses in Videos**

Ailing Zeng, Lei Yang, Xuan Ju, Jiefeng Li, Jianyi Wang, Qiang Xu, European Conference on Computer Vision (ECCV), 2022

ECCV 2022 **HuMMan: Multi-Modal 4D Human Dataset for Versatile Sensing and Modeling**

Oral

Zhongang Cai*, Daxuan Ren*, **Ailing Zeng***, Zhengyu Lin*, Tao Yu*, Wenjia Wang*, Xiangyu Fan, Yang Gao, Yifan Yu, Liang Pan, Fangzhou Hong, Mingyuan Zhang, Chen Change Loy, Lei Yang, Ziwei Liu, European Conference on Computer Vision (ECCV), 2022

ICCV 2021 **Learning Skeletal Graph Neural Networks for Hard 3D Pose Estimation**

Ailing Zeng, Xiao Sun, Lei Yang, Nanxuan Zhao, Minhao Liu, Qiang Xu, The International Conference on Computer Vision (ICCV), 2021

ECCV 2020 **SRNet: Improving Generalization in 3D Human Pose Estimation with a Split-and-Recombine Approach**

Ailing Zeng, Xiao Sun, Fuyang Huang, Minhao Liu, Qiang Xu, Stephen Lin, The European Conference on Computer Vision (ECCV), 2020

#Corresponding author:

NeurIPS 2023 **Motion-X: A Large-scale 3D Expressive Whole-body Human Motion Dataset**

Jing Lin*, **Ailing Zeng*#**, Shunlin Lu*, Yuanhao Cai, Ruimao Zhang, Haoqian Wang, Lei Zhang, The Conference on Neural Information Processing Systems (NeurIPS) Datasets and Benchmarks Track, 2023

NeurIPS 2023 **A Comprehensive Benchmark for Neural Human Radiance Fields**

Kenkun Liu, Derong Jin, **Ailing Zeng#**, Xiaoguang Han, Lei Zhang, The Conference on Neural Information Processing Systems (NeurIPS) Datasets and Benchmarks Track, 2023

ICCV 2023 **Neural Interactive Keypoint Detection**

Jie Yang, **Ailing Zeng#**, Feng Li, Shilong Liu, Ruimao Zhang#, Lei Zhang, The Thirty-Fourth IEEE/CVF Conference on International Conference on Computer Vision (ICCV), 2023

CVPR 2023 **One-Stage 3D Whole-Body Mesh Recovery with Component Aware Transformer**

Jing Lin, **Ailing Zeng#**, Haoqian Wang, Lei Zhang, Yu Li, The Thirty-Fourth IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023

CVPR 2023 **Human-Art: A Versatile Human-Centric Dataset Bridging Natural and Artificial Scenes**

Xuan Ju, **Ailing Zeng#**, Jianan Wang, Qiang Xu, Lei Zhang, The Thirty-Fourth IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023

ICLR 2023 **Explicit Box Detection Unifies End-to-End Multi-Person Pose Estimation**,

Jie Yang, **Ailing Zeng#**, Shilong Liu, Feng Li, Ruimao Zhang#, Lei Zhang
Eleventh International Conference on Learning Representations (ICLR), 2023

Other collaborations:

NeurIPS 2023 **SMPLer-X: Scaling Up Expressive Human Pose and Shape Estimation**

Zhongang Cai*, Wanqi Yin*, **Ailing Zeng**, Chen Wei, Qingping Sun, Yanjun Wang, Hui En Pang, Haiyi Mei, Mingyuan Zhang, Lei Zhang, Chen Change Loy, Lei Yang, Ziwei Liu, The Conference on Neural Information Processing Systems (NeurIPS) Datasets and Benchmarks Track, 2023

NeurIPS 2023 **DreamWaltz: Make a Scene with Complex 3D Animatable Avatars**

Yukun Huang*, Jianan Wang*, **Ailing Zeng**, He Cao, Xianbiao Qi, Yukai Shi, Zheng-Jun Zha, Lei Zhang, The Conference on Neural Information Processing Systems (NeurIPS), 2023

- ICCV 2023 **From Knowledge Distillation to Self-Knowledge Distillation: A Unified Approach with Normalized Loss and Customized Soft Labels**
Zhendong Yang, **Ailing Zeng**, Zhe Li, Tianke Zhang, Chun Yuan, Yu Li, The Thirty-Fourth IEEE/CVF Conference on International Conference on Computer Vision (ICCV), 2023
- ICCVW 2023 Oral **Effective Whole-body Pose Estimation with Two-stages Distillation**
Zhendong Yang, **Ailing Zeng**, Chun Yuan, Yu Li, The Thirty-Fourth IEEE/CVF Conference on International Conference on Computer Vision (ICCV), CV4Metaverse Workshop, 2023
- CVPR 2023 **Lite DETR: An Interleaved Multi-Scale Encoder for Efficient DETR**
Feng Li, **Ailing Zeng**, Shilong Liu, Hao Zhang, Hongyang Li, Lionel Ni, Lei Zhang, The Thirty-Fourth IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023
- NeurIPS 2022 **SCINet: Time Series Modeling and Forecasting with Sample Convolution and Interaction**
Minhao Liu, **Ailing Zeng**, Qiuxia Lai, Qiang Xu, Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS), 2022
- ICLR 2022 **T-WaveNet: A Tree-Structured Wavelet Neural Network for Time Series Signal Analysis**
Minhao Liu, **Ailing Zeng**, Qiuxia Lai, Qiang Xu, Tenth International Conference on Learning Representations (ICLR), 2022
- ICCV 2021 Oral **Human Pose Regression with Residual Log-likelihood Estimation**
Jiefeng Li, Siyuan Bian, **Ailing Zeng**, Can Wang, Bo Pang and Cewu Lu, The International Conference on Computer Vision (ICCV), 2021
- IJCAI 2021 **Information Bottleneck Approach to Spatial Attention Learning**
Qiuxia Lai, Yu Li, **Ailing Zeng**, Minhao Liu, Qiang Xu, Hanqiu Sun, The International Joint Conference on Artificial Intelligence (IJCAI), 2021
- WACV 2020 **DeepFuse: An IMU-Aware Network for Real-Time 3D Human Pose Estimation from Multi-View Image**
Fuyang Huang, **Ailing Zeng**, Minhao Liu, Qiang Xu, The Winter Conference on Applications of Computer Vision (WACV), 2020
- ICCV 2019 **Differentiable Kernel Evolution**
Yu Liu, Jihao Liu, **Ailing Zeng**, Xiaogang Wang, The International Conference on Computer Vision (ICCV), 2019

Professional Services

Conference Reviewer:

- Conference on Neural Information Processing Systems (NeurIPS) 2022, 2023
- International Conference on Machine Learning (ICML) 2022, 2023
- International Conference on Learning Representations (ICLR) 2022, 2023
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2021-2023
- IEEE International Conference on Computer Vision (ICCV) 2021, 2023
- European Conference on Computer Vision (ECCV) 2022
- AAAI Conference on Artificial Intelligence (AAAI) 2021-2023

Journal Reviewer:

- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2023
- International Journal of Computer Vision (IJCV) 2022, 2023

Research Internship

- Nov.2020- **Research intern**, *Sensetime Research*, X-Lab
Apr.2022 Worked on robust 3D human pose estimation and body reconstruction from videos.
- Dec.2019- **Research intern**, *Microsoft Asia Research*, Visual Computing Group
Sep.2020 Worked on improving the generalization ability of single-view 3D human pose estimation from either images or videos.
- Jun.2018- **Research intern**, *Baidu Research*
Sep.2018 Worked on 2D human pose estimation.

Honors and Awards

- Full Postgraduate Studentship, CUHK (2017 - 2021)
- Excellent League Member, Top 1% student of Xiamen University
- National Scholarship (2015)