

# Zerong Zheng

PhD | Chief Algorithm Scientist at NNKosmos Technology

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🌐 <https://zhengzerong.github.io>

## Education

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Department of Automation, Tsinghua University

*Ph.D Student*

- Advisor: Prof. Yebin Liu
- Lab: BBNC, Tsinghua University

Beijing, China

*August 2018 – June 2023*

Department of Automation, Tsinghua University

*B.Eng*

- GPA: 90/100

Beijing, China

*August 2014 – July 2018*

## Experience

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NNKosmos Technology

*Chief Algorithm Scientist*

- Duty: Leading the research on technologies for creating virtual characters (in both 2D and 3D)

Hangzhou, China

*July 2023 – Present*

## Internship

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Facebook

*Research Intern*

- Institute: Facebook Reality Lab at Sausalito
- Mentor: Dr. Tony Tung

San Francisco Bay Area, CA, USA

*June 2019 – September 2019*

University of Southern California

*Undergraduate Visiting Scholar*

- Institute: Vision and Graphics Lab, USC Institute for Creative Technologies
- Mentor: Prof. Hao Li

Los Angeles, CA, USA

*June 2017 – August 2017*

## Publication

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2024:

Zhe Li, **Zerong Zheng**, Lizhen Wang, Yebin Liu.

”Animatable Gaussians: Learning Pose-dependent Gaussian Maps for High-fidelity Human Avatar Modeling”.  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2024.

Yuelang Xu, Benwang Chen, Zhe Li, Hongwen Zhang, Lizhen Wang, **Zerong Zheng**, Yebin Liu.

”Gaussian Head Avatar: Ultra High-fidelity Head Avatar via Dynamic Gaussians”.  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2024.

Chenyang Wang, **Zerong Zheng**, Tao Yu, Xiaoqian Lv, Bineng Zhong, Shengping Zhang, Liqiang Nie.

”DiffPerformer: Iterative Learning of Consistent Latent Guidance for Diffusion-based Human Video Generation”.  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2024.

Xiang Deng, **Zerong Zheng**, Yuxiang Zhang, Jingxiang Sun, Chao Xu, XiaoDong Yang, Lizhen Wang, Yebin Liu..

”RAM-Avatar: Real-time Photo-Realistic Avatar from Monocular Videos with Full-body Control”.  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2024.

Ruizhi Shao, Jingxiang Sun, Cheng Peng, **Zerong Zheng**, Boyao Zhou, Hongwen Zhang, Yebin Liu..

"Control4D: Efficient 4D Portrait Editing with Text".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2024.

**2023:**

**Zerong Zheng**, Xiaochen Zhao, Hongwen Zhang, Boning Liu, Yebin Liu.  
"AvatarReX: Real-time Expressive Full-body Avatars".  
ACM Transactions on Graphics (Proceedings of SIGGRAPH) 2023.

Zhe Li, **Zerong Zheng**, Yuxiao Liu, Boyao Zhou, Yebin Liu.  
"PoseVocab: Learning Joint-structured Pose Embeddings for Human Avatar Modeling".  
ACM SIGGRAPH 2023.

Siyou Lin, Boyao Zhou, **Zerong Zheng**, Hongwen Zhang, Yebin Liu.  
"Leveraging Intrinsic Properties for Non-Rigid Garment Alignment".  
IEEE International Conference on Computer Vision (ICCV) 2023.

Ruizhi Shao, **Zerong Zheng**, Hanzhang Tu, Boning Liu, Hongwen Zhang, Yebin Liu.  
"Tensor4D : Efficient Neural 4D Decomposition for High-fidelity Dynamic Reconstruction and Rendering".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2023 (**highlight**).

Hongwen Zhang, Siyou Lin, Ruizhi Shao, Yuxiang Zhang, **Zerong Zheng**, Han Huang, Yandong Guo, Yebin Liu.  
"CloSET: Modeling Clothed Humans on Continuous Surface with Explicit Template Decomposition".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2023.

**2022:**

**Zerong Zheng**, Han Huang, Tao Yu, Hongwen Zhang, Yandong Guo, Yebin Liu.  
"Structured Local Radiance Fields for Human Avatar Modeling".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2022.

Hao Zhao, Jinsong Zhang, Yu-Kun Lai, **Zerong Zheng**, Yingdi Xie, Yebin Liu, Kun Li.  
"High-Fidelity Human Avatars from a Single RGB Camera".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2022.

Ruizhi Shao, **Zerong Zheng**, Hongwen Zhang, Jingxiang Sun, Yebin Liu.  
"High Quality Human Reconstruction via Diffusion-based Stereo Using Sparse Cameras".  
European Conference on Computer Vision (ECCV) (**oral**).

Zhe Li, **Zerong Zheng**, Hongwen Zhang, Chaonan Ji, Yebin Liu.  
"AvatarCap: Animatable Avatar Conditioned Monocular Human Volumetric Capture".  
European Conference on Computer Vision (ECCV).

Siyou Lin, Hongwen Zhang, **Zerong Zheng**, Ruizhi Shao, Yebin Liu.  
"Learning Implicit Templates for Point-Based Clothed Human Modeling".  
European Conference on Computer Vision (ECCV).

Ruizhi Shao, Liliang Chen, **Zerong Zheng**, Hongwen Zhang, Yuxiang Zhang, Han Huang, Yandong Guo, Yebin Liu.  
"FloRen: Real-time High-quality Human Performance Rendering via Appearance Flow Using Sparse RGB Cameras".  
SIGGRAPH Asia.

**2021:**

**Zerong Zheng**, Tao Yu, Qionghai Dai, Yebin Liu.  
"Deep Implicit Templates for 3D Shape Representation".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2021 (**oral**).

Tao Yu, **Zerong Zheng**, Kaiwen Guo, Pengpeng Liu, Qionghai Dai, Yebin Liu.  
"Function4D: Real-time Human Volumetric Capture from Very Sparse Consumer RGBD Sensors".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2021 (**oral**).

Zhe Li, Tao Yu, **Zerong Zheng**, Kaiwen Guo, Yebin Liu.  
"POSEFusion: Pose-guided Selective Fusion for Single-view Human Volumetric Capture".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2021 (**oral**).

Yang Zheng\*, Ruizhi Shao\*, Yuxiang Zhang, Tao Yu, **Zerong Zheng**, Qionghai Dai, Yebin Liu.  
"DeepMultiCap: Performance Capture of Multiple Characters Using Sparse Multiview Cameras".  
IEEE International Conference on Computer Vision (ICCV) 2021.

#### **2020:**

**Zerong Zheng**, Tao Yu, Yebin Liu, Qionghai Dai.  
"PaMIR: Parametric Model-Conditioned Implicit Representation for Image-based Human Reconstruction".  
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) .

Zhuo Su, Lan Xu, **Zerong Zheng**, Tao Yu, Yebin Liu, Lu Fang.  
"RobustFusion: Human Volumetric Capture with Data-driven Visual Cues using a RGBD Camera".  
European Conference on Computer Vision (ECCV) 2020 (spotlight).

Zhe Li, Tao Yu, **Zerong Zheng**, Yebin Liu.  
"Robust 3D Self-portraits in Seconds".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2020 (**oral**).

#### **2019:**

**Zerong Zheng**, Tao Yu, Yixuan Wei, Qionghai Dai, Yebin Liu.  
"DeepHuman: 3D Human Reconstruction from a Single Image".  
IEEE/CVF International Conference on Computer Vision (ICCV) 2019 (**oral**).

Tao Yu, **Zerong Zheng**, Yuan Zhong, Jianhui Zhao, Qionghai Dai, Gerard Pons-Moll, Yebin Liu.  
"SimulCap : Single-View Human Performance Capture with Cloth Simulation".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2019.

#### **2018:**

**Zerong Zheng**, Tao Yu, Hao Li, Kaiwen Guo, Qionghai Dai, Lu Fang, Yebin Liu.  
"HybridFusion: Real-Time Performance Capture Using a Single Depth Sensor and Sparse IMUs".  
European Conference on Computer Vision (ECCV) 2018.

Tao Yu, **Zerong Zheng**, Kaiwen Guo, Jianhui Zhao, Qionghai Dai, Hao Li, Gerard Pons-Moll, Yebin Liu.  
"DoubleFusion: Real-time Capture of Human Performances with Inner Body Shapes from a Single Depth Sensor".  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2018 (**oral**).

## **Distinctions**

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#### **2022:**

National Scholarship, Ministry of Education of China

#### **2021:**

Tsinghua-Hefei First Class Scholarship, Tsinghua University

#### **2018:**

Future Scholar Fellowship, Tsinghua University (× 3 years)

Excellent Bachelor Thesis, Tsinghua University

#### **2017:**

Academic Excellence Award, Tsinghua-Guangyao Scholarship, Tsinghua University

Excellence Award & Scholarship for Technological Innovation, Tsinghua University

**2016:**

Academic Excellence Award, Tsinghua-Hengda Scholarship, Tsinghua University

Excellence Award for Technological Innovation, Tsinghua University

**2015:**

Academic Excellence Award & Scholarship, Tsinghua University

## **Skills**

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**Programming:** C/C++ (OpenGL/CUDA/TensorRT), Python (Tensorflow/PyTorch), Matlab

**Language:** Chinese (native), English (working proficient)

## **Academic Service**

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**Reviewer:** CVPR 2019~, ICCV 2019~, ECCV 2020~, NeurIPS 2020~, ICML 2021~, SIGGRAPH 2022~, Euro-  
Graphics 2023~, TVCG 2023~, TIP 2023~