Chen Guo

AI Research Scientist at Meta Codec Avatars Lab
Dr. sc. ETH Zurich in Computer Science

Email: chenguo.ethz@gmail.com, **Web**: Personal Page, **Google Scholar**: Link, **GitHub**: Repos

EDUCATION

ETH Zurich *Mar. 2022 – Aug. 2025*
Ph.D. in Computer Science
Advisor: Prof. Otmar Hilliges and Prof. Marc Pollefeys
Partially funded by Swiss JRC of Microsoft. Industrial Advisor: Dr. Julien Valentin
Thesis Committee: Marc Pollefeys, Yebin Liu, Justus Thies, Julien Valentin

ETH Zurich *Sep. 2019 – Feb. 2022*
M.S. in Robotics, Systems and Control, *GPA: 5.86/6.0* (Distinction)
Advisor: Prof. Otmar Hilliges and Prof. Luc Van Gool

University of Stuttgart *Oct. 2016 – Aug. 2019*
B.S. in Electrical Engineering and Information Technology, *GPA: 1.5/1.0*

Wuhan University *Sep. 2014 – Aug. 2019*
B.E. in Electrical Engineering and Automation, *GPA: 91/100*

RESEARCH INTEREST

"What I cannot create, I do not understand." – Richard Feynman

My research interests lie in developing intelligent systems capable of perceiving, digitally reproducing, and understanding humans. At the core of this vision lies a broad spectrum of human-centric computer vision and computer graphics tasks, including 3D human pose and shape estimation, semantic understanding of humans, modeling human-environment and human-human interactions, and photorealistic 3D reconstruction of people. More broadly, I aim to equip machines with human-like perceptual capabilities to interpret metrically grounded human behaviors and reconstruct realistic digital twins using minimal visual input. These advances pave the way toward consumer-grade photorealistic telepresence, connecting people across distances, and toward intelligent robotic systems that can understand humans and interact with them in natural, human-like ways.

EXPERIENCES

Meta Reality Labs Research (Codec Avatars), Pittsburgh, USA
AI Research Scientist *Dec. 2025 – Present*
Project: *Next-Generation Digital Humans*

ETH Zurich, Zurich, Switzerland
Senior Researcher/Postdoc *Sep. 2025 – Nov. 2025*
- Advised PhD and master's students on their research projects.

Meta Reality Labs Research (Codec Avatars), Pittsburgh, USA
Research Scientist Intern *Jun. 2024 – Dec. 2024*
Team: Yaser Sheikh (Manager), Chen Cao, Shunsuke Saito, Junxuan Li
- In-the-Wild Drivable Full-Body Avatars.

ETH Zurich (AIT Lab), Zurich, Switzerland
Research Assistant *Apr. 2021 – Jul. 2021*
Team: Otmar Hilliges (Advisor), Jie Song, Xu Chen
- In-the-Wild Human Performance Capture.

PUBLICATIONS

* : Equal Contribution ; † : Equal Advisory / Corresponding Author

Highlighted Publications

Gaussian Wardrobe: Compositional 3D Gaussian Avatars for Free-Form Virtual Try-on
Zhiyi Chen*, Hsuan-I Ho*, Tianjian Jiang, Jie Song, Manuel Kaufmann, **Chen Guo**†
International Conference on 3D Vision (**3DV**), 2026.

Vid2Avatar-Pro: Authentic Avatar from Videos in the Wild via Universal Prior
Chen Guo*, Junxuan Li*, Yash Kant, Yaser Sheikh, Shunsuke Saito†, Chen Cao†
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2025.

ReLoo: Reconstructing Humans Dressed in Loose Garments from Monocular Video in the Wild
Chen Guo*, Tianjian Jiang*, Manuel Kaufmann, Chengwei Zheng, Julien Valentin, Jie Song†, Otmar Hilliges
European Conference on Computer Vision (**ECCV**), 2024.

MultiPly: Reconstruction of Multiple People from Monocular Video in the Wild (*Oral Presentation, Top 3.3%*)
Zeren Jiang*, **Chen Guo***, Manuel Kaufmann, Tianjian Jiang, Julien Valentin, Otmar Hilliges, Jie Song†
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024.

Vid2Avatar: 3D Avatar Reconstruction from Videos in the Wild via Self-supervised Scene Decomposition
Chen Guo, Tianjian Jiang, Xu Chen, Jie Song†, Otmar Hilliges
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023.

X-Avatar: Expressive Human Avatars
Kaiyue Shen*, **Chen Guo***, Manuel Kaufmann, Juan Zarate, Julien Valentin, Jie Song†, Otmar Hilliges
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023.

PINA: Learning a Personalized Implicit Neural Avatar from a Single RGB-D Video Sequence
Zijian Dong*, **Chen Guo***, Jie Song†, Xu Chen, Andreas Geiger, Otmar Hilliges
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2022.

Human Performance Capture from Monocular Video in the Wild
Chen Guo, Xu Chen, Jie Song, Otmar Hilliges
International Conference on 3D Vision (**3DV**), 2021.

Other Publications

PHD: Personalized 3D Human Body Fitting with Point Diffusion
Hsuan-I Ho, **Chen Guo**, Po-Chen Wu, ..., Manuel Kaufmann†, Linguang Zhang†
International Conference on Computer Vision (**ICCV**), 2025.

HSR: Holistic 3D Human-Scene Reconstruction from Monocular Videos
Lixin Xue, **Chen Guo**, Chengwei Zheng, Fangjinhua Wang, ..., Jie Song†, Otmar Hilliges
European Conference on Computer Vision (**ECCV**), 2024.

4D-DRESS: A 4D Dataset of Real-World Human Clothing With Semantic Annotations (*Highlight, Top 11.9%*)
Wenbo Wang*, Hsuan-I Ho*, **Chen Guo**, ..., Jie Song, Juan Zarate†, Otmar Hilliges
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024.

EMDB: The Electromagnetic Database of Global 3D Human Pose and Shape in the Wild
Manuel Kaufmann, Jie Song, **Chen Guo**, Kaiyue Shen, ..., Juan Zarate, Otmar Hilliges
International Conference on Computer Vision (**ICCV**), 2023.

Hi4D: 4D Instance Segmentation of Close Human Interaction
Yifei Yin, **Chen Guo**, Manuel Kaufmann, Juan Zarate, Jie Song, Otmar Hilliges
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023.

Shape-aware Multi-Person Pose Estimation from Multi-view Images
Zijian Dong, Jie Song, Xu Chen, **Chen Guo**, Otmar Hilliges
International Conference on Computer Vision (**ICCV**), 2021.

ACADEMIC SERVICES

Reviewer

Computer Vision: CVPR, ICCV, ECCV, TPAMI, 3DV
Computer Graphics: SIGGRAPH Asia, ACM TOG, TVCG
Machine Learning: NeurIPS

Organizer
Workshops: Global 3D Human Poses (G3P) Workshop

AWARDS & HONORS

CVPR Outstanding Reviewer *2025*
Microsoft Swiss JRC PhD Fellowship *2022*
ETH Scholarship *2020*
German National Scholarship (Deutschlandstipendium) *2018, 2019*

DATASETS & OPENSOURCE

Vid2Avatar: https://github.com/MoyGcc/vid2avatar
High-fidelity 3D human digitization code from a monocular in-the-wild video
1.3K stars and 108 forks (as of Sep 2025)
EMDB Dataset: https://ait.ethz.ch/emdb
First in-the-wild dataset with accurate SMPL pose/shape and global camera–body trajectories.
X-Humans Dataset: https://ait.ethz.ch/x-avatar
First dataset for clothed human capture and modeling with expressive behaviors
Hi4D Dataset: https://ait.ethz.ch/hi4d
Dataset of close human interactions with rich multimodal annotations

INVITED TALKS

Apple, Munich (hosted by Artem Sevastopolsky) *Oct. 2025*
Tsinghua University, Beijing (hosted by Yebin Liu) *Sep. 2025*
Westlake University, Hangzhou (hosted by Yuliang Xiu) *Aug. 2025*
Meta, EMEA, remote (hosted by Shiyang Cheng) *Aug. 2025*
Meta, Pittsburgh, remote (hosted by Shunsuke Saito) *Mar. 2025*
NVIDIA Research, Santa Clara, remote (hosted by Umar Iqbal) *Dec. 2024*
Microsoft Swiss Joint Research Center, Zurich (hosted by Marc Pollefeys) *Apr. 2024*
Google Research, Zurich (hosted by Thiemo Alldieck) *Aug. 2023*
Adobe Research, San Jose, remote (hosted by Jimei Yang) *Jun. 2023*
Microsoft Swiss Joint Research Center, Lausanne (hosted by Marc Pollefeys) *Mar. 2022*

STUDENT MENTORSHIP

Zhiyi Chen, Now: Software Engineer at Google
Semester Project & Master Thesis (2024 - 2025)
Wenbo Wang, Now: Ph.D. Student at University of Sydney
Research Intern (2023 - 2024)
Zeren Jiang, Now: Ph.D. Student at Oxford VGG
Semester Project (2023 - 2024)
Alessandro Burzio, Now: Ph.D. Student at NVIDIA
Master Thesis (2023 - 2024)
Kaiyue Shen, Now: Deep Learning Engineer at Arbrea Labs AG.
Master Thesis (2022 - 2023)

TEACHING

Teaching Assistant, ETH Zurich *Spring 2023, Spring 2024, Spring 2025*
Machine Perception, lectured by Prof. Otmar Hilliges
Teaching Assistant, ETH Zurich *Spring 2024, Spring 2025*
Seminar on Human-Performance Capture, lectured by Dr. Juan Zarate
Teaching Assistant, ETH Zurich *Fall 2022, Fall 2023*
Advanced Topics in Human-Centric Computer Vision, lectured by Prof. Otmar Hilliges
Teaching Assistant, ETH Zurich *Fall 2023*
Computer Science I, lectured by Dr. Manuela Fischer
Teaching Assistant, ETH Zurich *Fall 2022*
Linear Algebra, lectured by Prof. Olga Sorkine-Hornung

Teaching Assistant, University of Stuttgart *Fall 2017, Fall 2018*
Introduction to Programming, lectured by Dr. Christian Senger

SKILLS

Language: Mandarin (native), English (full proficiency), German (full proficiency)

Programming Language: Python, C/C++

Framework: PyTorch, TensorFlow, NumPy, MATLAB, LaTeX

Adobe: Photoshop, Premiere Pro