

HSUAN-I HO | CURRICULUM VITAE

Postdoctoral Researcher,
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RESEARCH INTERESTS

My research focus lies at the intersection of **Human-Centric Computer Vision** and **Generative AI**. The goal is to advance digital humans toward personalized, interactive, and high-fidelity AI systems, enabling complex AI agents to perceive and reconstruct human activities with high precision.

Focus areas:

- **Computer Vision:** Digital humans modeling, 3D/4D human reconstruction, 3D human state estimation.
- **Generative AI:** Diffusion models, GANs, text-to-image generation, 3D-aware generation.
- **Data Collection:** Volumetric human performance capture, parametric body models, 3D asset creation.

EDUCATION

- 2022.05–2026.01** **Ph.D. in Computer Science**, ETH Zurich, Switzerland
Thesis: *Advancing Digital Humans Toward Personalized Human-Centric AI*
Supervisors: Prof. Otmar Hilliges and Prof. Marc Pollefeys
Lab: Advanced Interactive Technologies (AIT)
- 2018.09–2021.06** **M.Sc. in Computer Science**, ETH Zurich, Switzerland
- 2012.09–2016.06** **B.Sc. in Electrical Engineering**, National Taiwan University, Taiwan

ACADEMIC & PROFESSIONAL EXPERIENCE

- 2026.02–Present** **Postdoctoral Researcher**, ETH AI Center
ETH Zurich, Switzerland
- Served as Innosuisse academic implementation partner.
- 2025.04–2026.01** **Student Researcher**, Google Android XR
Zurich, Switzerland
- Developed a large-scale diffusion model for modeling the appearance of parametric body models.
 - Deployed a texture inpainting pipeline and the diffusion model into the 3D asset creation pipeline.
- 2024.08–2025.02** **Research Scientist Intern**, Meta Reality Labs
Redmond, USA
- Proposed "PHD" (Personalized Human Body Fitting), a diffusion-based framework for robust 3D body fitting. (Published at ICCV 2025).
 - Designed a Point Diffusion Transformer (PointDiT) trained on a large-scale synthetic human dataset as a robust pose prior.
- 2019.09–2019.12** **Research Scientist Intern**, NAVER Corp.
South Korea
- Designed "READ", for video-based person re-identification (Published at ECCV 2020).

PUBLICATIONS

- [1] **Hsuan-I Ho***, Zhiyi Chen*, Tianjian Jiang, Jie Song, Manuel Kaufmann, Chen Guo. "Gaussian Wardrobe: Compositional 3D Gaussian Avatars for Free-Form Virtual Try-on." *International Conference on 3D Vision (3DV)*, 2026. (*Equal Contribution)
- [2] Tianjian Jiang, **Hsuan-I Ho**, Manuel Kaufmann, Jie Song. "PriorAvatar: Efficient and Robust Avatar Creation from Monocular Video Using Learned Priors." *SIGGRAPH Asia (Conference Paper)*, 2025.
- [3] **Hsuan-I Ho**, Chen Guo, Po-Chen Wu, Ivan Shugurov, Chengcheng Tang, Abhay Mittal, Sizhe An, Manuel Kaufmann*, Linguang Zhang*. "PHD: Personalized 3D Human Body Fitting with Point Diffusion." *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2025.
- [4] Onat Vuran, **Hsuan-I Ho**. "Capture and Reconstruction of Clothed Humans from Images." *The British Machine Vision Conference (BMVC)*, 2025.
- [5] **Hsuan-I Ho**, Jie Song, Otmar Hilliges. "SITH: Single-view Textured Human Reconstruction with Image-Conditioned Diffusion." *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
- [6] Wenbo Wang, **Hsuan-I Ho**, Chen Guo, Boxiang Rong, Artur Grigorev, Jie Song, Juan Jose Zarate, Otmar Hilliges. "4D-DRESS: A 4D Dataset of Real-world Human Clothing with Semantic Annotations." *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
- [7] **Hsuan-I Ho**, Lixin Xue, Jie Song, Otmar Hilliges. "Learning Locally Editable Virtual Human." *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
- [8] **Hsuan-I Ho**, Xu Chen, Jie Song, Otmar Hilliges. "Render In-between: Motion Guided Video Synthesis for Action Interpolation." *The British Machine Vision Conference (BMVC)*, 2021.
- [9] Minh Shim, **Hsuan-I Ho**, Jinhyung Kim, Dongyoon Wee. "READ: Reciprocal Attention Discriminator for Image-to-Video Re-Identification." *European Conference on Computer Vision (ECCV)*, 2020.
- [10] **Hsuan-I Ho**, Wei-Chen Chiu, Yu-Chiang Frank Wang. "Summarizing First-Person Videos from Third Persons' Points of Views." *European Conference on Computer Vision (ECCV)*, 2018.

TEACHING & SUPERVISION

Lecturing

Spring 2025

Lecturer, Machine Perception, ETH Zurich

Led lectures and curriculum design for graduate-level computer vision course.

Teaching Assistant

2022–2024

Machine Perception (Spring '23, '24)

Seminar on Human-Performance Capture (Spring '24)

Advanced Topics in Human-Centric Computer Vision (Fall '22, '23)

Informatik I (Fall '22, '23)

Master Thesis Supervision

2025

Zhiyi Chen (Now at Google Zurich)

2025

Nauryz Koisheke

2024

Onat Vuran (Now at EthonAI)

2023

Wenbo Wang (Now Ph.D. Student at Univ. of Sydney)

HONORS & AWARDS

2025 **ICCV Outstanding Reviewer**
2024 **Taiwan Government Scholarship to Study Abroad (GSSA)** 32K USD
2018 **Appier Scholarship** for AI and Information Technology Research

PROFESSIONAL ACTIVITIES

Reviewer

Conference: CVPR, ICCV, ECCV, SIGGRAPH, NeurIPS, 3DV, BMVC, ACCV

Journal: TMM, TPAMI, TVCG, IJCV

TECHNICAL SKILLS

- **Languages:** Python, C/C++, MATLAB, LaTeX
- **Frameworks:** PyTorch, TensorFlow, JAX
- **Tools:** Git, Docker, Slurm, Blender, OpenCV, Colab