

XUANGENG CHU

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RESEARCH INTERESTS

My research interests focus on 3D human-centric computer vision, specifically in human reconstruction and animation.

EDUCATION

The University of Tokyo Ph.D. Candidate in RCAST, University Fellowship. Supervisor: Prof. Tatsuya HARADA	Tokyo, Japan Apr 2023 – Mar 2026
Princeton University Visiting Ph.D. Student Researcher. Supervisor: Prof. Jia DENG	Princeton, NJ, USA Jul 2024 – Sep 2024
Peking University M.Eng. in Software Engineering. Supervisor: Prof. Yasha WANG	Beijing, China Sep 2018 – Jun 2021
Tongji University B.Eng. in Computer Science	Shanghai, China Sep 2014 – Jun 2018

WORK EXPERIENCE

Tencent Research Engineer, Applied Research Center (work closely with Ying SHAN) <i>Worked on category extensible object detection algorithm for videos.</i> <i>Worked on articulated model reconstruction algorithm for a virtual scene generating system.</i>	Shenzhen, China / On-site Mar 2021 – Oct 2022
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INTERNSHIP EXPERIENCE

Meta Reality Labs Research Scientist Intern (Advised by Shih-En WEI) <i>Worked on research of audio and style guided motion generation.</i>	Pittsburgh, PA, USA / On-site Aug 2025 – Jan 2026
Snap Research Student Researcher (Advised by Bing ZHOU and Jian WANG) <i>Worked on research of motion generation, which was funded by a \$15,000 grant.</i>	Remote Apr 2025 – Nov 2025
International Digital Economy Academy (IDEA) Research Intern (Advised by Yu LI) <i>Worked on research and development of human reconstruction and pose estimation.</i>	Shenzhen, China / Hybrid Dec 2022 – Nov 2023
Microsoft Research Asia (MSRA) Research Intern (Advised by Xiulian PENG) <i>Worked on research of audio-visual speech separation problem (cocktail party problem).</i>	Beijing, China / On-site Jun 2020 – Feb 2021
Megvii Technology Research Intern (Advised by Xiangyu ZHANG) <i>Worked on research and development of object detection in crowded scenes.</i>	Beijing, China / On-site Jan 2019 – Jun 2020

PUBLICATIONS

[CVPR 2026] UniLS: End-to-End Audio-Driven Avatars for Unified Listening and Speaking

Xuangeng Chu*, Ruicong Liu*, Yifei Huang, Yun Liu, Yichen Peng, Bo Zheng

UniLS generates dual-track audio-driven expressions for both speakers and listeners; this work is part of the MIO: Towards Interactive Intelligence for Digital Humans project.

[CVPR 2026] DyaDiT: A Multi-Modal Diffusion Transformer for Socially-Aware Dyadic Gesture Generation

Yichen Peng, Jyun-Ting Song, Siyeol Jung, Ruofan Liu, Haiyang Liu, Xuangeng Chu, Ruicong Liu, Erwin Wu, Hideki Koike, Kris Kitani

DyaDiT generates human gestures by processing dyadic audio signals and social context, effectively capturing the mutual dynamics between two speakers.

[NeurIPS 2025] I2-NeRF: Learning Neural Radiance Fields Under Physically-Grounded Media Interactions

Shuhong Liu, Lin Gu, Ziteng Cui, Xuangeng Chu, Tatsuya Harada

We propose a novel NeRF framework that enhances isometric and isotropic metric perception under media degradation.

[NeurIPS D&B 2025] Intend to Move: A Dataset for Intention and Scene Aware Human Motion Prediction

Ryo Umagami, Liu Yue, Xuangeng Chu, Ryuto Fukushima, Tetsuya Narita, Yusuke Mukuta, Tomoyuki Takahata, Jianfei Yang, Tatsuya Harada

We introduce a new dataset for embodied AI, focusing on intention-aware human motion in real-world environments.

[SIGGRAPH Asia 2025] ARTalk: Speech-Driven 3D Head Animation via Autoregressive Model

Xuangeng Chu, Nabarun Goswami, Ziteng Cui, Hanqin Wang, Tatsuya Harada

We propose an autoregressive framework capable of generating natural 3D facial motions with head poses in real time.

[CVPR 2025] Luminance-GS: Adapting 3D Gaussian Splatting to Challenging Lighting Conditions with View-Adaptive Curve Adjustment

Ziteng Cui, Xuangeng Chu, Tatsuya Harada

We achieve high-quality novel view synthesis results under diverse and challenging lighting conditions using 3DGS.

[NeurIPS 2024] Generalizable and Animatable Gaussian Head Avatar

Xuangeng Chu, Tatsuya Harada

We propose the first 3DGS head avatar framework that achieves single forward reconstruction and real-time reenactment.

[ICLR 2024] GPAvatar: Generalizable and Precise Head Avatar from Image(s)

Xuangeng Chu, Yu Li, Ailing Zeng, Tianyu Yang, Lijian Lin, Yunfei Liu, Tatsuya Harada

We propose a framework to reconstructs 3D head avatars from one or several images in a single forward pass.

[TVCG 2024] Real-time High-resolution View Synthesis of Complex Scenes with Explicit 3D Visibility Reasoning

Tiansong Zhou, Yebin Liu, Xuangeng Chu, Chengkun Cao, Changyin Zhou, Fei Yu, Yu Li

We propose a novel view synthesis method capable of real-time rendering from sparse view inputs.

[ICCV 2023] Accurate 3D Face Reconstruction with Facial Component Tokens

Tianke Zhang, Xuangeng Chu, Yunfei Liu, Lijian Lin, Zhendong Yang, Zhengzhuo Xu, Chengkun Cao, Fei Yu, Changyin Zhou, Chun Yuan, Yu Li

We propose a framework for 3D face reconstruction from monocular images based on 3DMM and transformers.

[CVPR 2020 Oral] Detection in Crowded Scenes: One Proposal, Multiple Predictions

Xuangeng Chu*, Anlin Zheng*, Xiangyu Zhang*, Jian Sun

We propose a simple and almost cost-free method to improve the detection performance in crowded scenes.

SERVICES

Reviewer: TPAMI; TMM; CVPR; SIGGRAPH; NeurIPS; ICLR; ICML; ECCV; ACM; 3DV.