

Xiaohang Yu

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[Google Scholar](#) · [GitHub](#) · [LinkedIn](#)

Education

Ph.D. in Electrical Engineering

September 2024 – Present

EPFL, Lausanne, Switzerland

Advisor: Prof. Mackenzie Weygandt Mathis

Master of Engineering in Computer Science

September 2021 – July 2024

Tsinghua University, Beijing, China

Overall GPA: 3.87/4.0 Advisor: Prof. Qionghai Dai

Bachelor of Communication Engineering, Honors Program

September 2017 – June 2021

China Agricultural University, Beijing, China

Overall GPA: 3.72/4.0 Ranking: top 5%

Publications

3D Pose and Shape

- Ti Wang, **Xiaohang Yu**, Mackenzie Mathis. *FMPose3D: Monocular 3D Pose Estimation via Flow Matching*. CVPR, 2026. [\[paper\]](#) [\[code\]](#)
- Xiaohang Yu**, Ti Wang, Mackenzie Mathis. *PRIMA: Boosting Animal Mesh Recovery with Taxonomic Priors and Adaptation-Driven Data Bootstrapping*. In submission, 2026. [\[paper\]](#) [\[code\]](#)

3D Representation

- Xiaohang Yu**, Zhengxian Yang, Shi Pan, Yuqi Han, Haoxiang Wang, Jun Zhang, Shi Yan, Borong Lin, Lei Yang, Lu Fang, Tao Yu. *Towards Immersive Volumetric Space: Capture, Reconstruction, and Application*. IEEE TCSVT, 2026. [\[paper\]](#)
- Xiaohang Yu**, Haoxiang Wang, Yuqi Han, Lei Yang, Tao Yu, Qionghai Dai. *ImmersiveNeRF: Hybrid Radiance Fields for Unbounded Immersive Light Field Reconstruction*. IEEE TVCG, 2024. [\[paper\]](#)
- Yuqi Han, Tao Yu, **Xiaohang Yu**, Yuwang Wang, Qionghai Dai. *Super-NeRF: View-consistent Detail Generation for NeRF Super-resolution*. IEEE TVCG, 2024. [\[paper\]](#)

Drones

- Yuqi Han, **Xiaohang Yu**, Heng Luan, Jinli Suo. *Event-Assisted Object Tracking on High-Speed Drones in Harsh Illumination Environment*. Drones, 2024. [\[paper\]](#)

Research Experience

M-Lab of Adaptive Intelligence, EPFL

September 2024 – Present

led by Prof. Mackenzie Weygandt Mathis

- Developed a transformer-based framework for multi-view 3D animal pose estimation, leveraging geometric constraints to resolve occlusions and reconstruct high-fidelity skeletal poses.
- Led the animal branch of FMPose3D, adapting the flow-matching-based framework for monocular 3D pose lifting to animals and addressing challenges from limited 3D annotations and diverse poses.
- Developed PRIMA, introducing taxonomic shape priors from BioCLIP to inject species-level knowledge into monocular 3D animal mesh reconstruction, improving shape estimation across diverse quadruped species.

- Proposed an adaptation-driven bootstrapping pipeline that converts abundant 2D animal annotations into reliable pseudo-3D supervision, constructing Quadruped3D (9K annotations) and substantially improving reconstruction of rare species and challenging poses.
- Developed a wildlife detection pipeline combining fine-tuned MegaDetector and motion-based candidate generation for large-scale animal event discovery and dataset construction.

Metaverse AI Group, Tsinghua University

January 2022 – June 2024

led by Prof. Tao Yu and Prof. Qionghai Dai

- Combined traditional and neural 3D reconstruction methods and representations, aiming to reconstruct static and dynamic light fields and realize photorealistic novel view synthesis and 6-DoF immersive experiences in VR/AR headsets for unbounded scenes.
- Proposed a hybrid radiance field representation for unbounded immersive light field reconstruction.
- Collected an outdoor immersive light field dataset, THUimmersive, to benchmark large-scale 6-DoF immersive rendering.
- Proposed a generative NeRF super-resolution method for view-consistent, high-resolution novel view synthesis from low-resolution image input.
- Proposed a novel framework for dynamic radiance field reconstruction in an incremental manner.

Agricultural Informatization Group, China Agricultural University

December 2020 – May 2021

led by Prof. Xiang Li

- Aimed to digitize agricultural production processes, focusing on the recognition of crop diseases and of farmers' labor behavior from images and videos.
- Collected a video dataset of farmers' labor activities.
- Formulated farmers' labor behavior recognition as a spatiotemporal video classification problem, and proposed an end-to-end network to recognize working behavior from monocular videos.

Internship

Software Quality Assurance Intern

June 2020

Kingsoft Office, Beijing

Achievements

Scholarship for Excellent Academic Performance (Top 5%), thrice	2018, 2019, 2020
Mathematical Contest in Modeling (MCM/ICM), Honorable Mention	2020
National Mathematics Competition for College Students, First Prize	2019
National Mathematical Contest in Modeling for College Students, First Prize	2019
Renewable Energy Technology Competition, Second Prize	2018
National English Competition for College Students, First Prize	2018

Services

Academic Services. Reviewer for ACM MM 2026 and CICA 2023; Student Volunteer for Robot Challenge 2019.

Teaching. Teaching Assistant at EPFL for Applied Data Analysis (CS-401), Fundamentals of Inference and Learning (EE-411), and Analysis (MATH-207).

Outreach and Leadership. Captain of the DK5s dance club, Tsinghua University.

Skills

Programming & Tools. Proficient in Python; familiar with C, C++, MATLAB, Blender, Unity.

Extracurriculars. Tennis, jazz, swimming, violin.

Languages. Mandarin (native); English (TOEFL 105; R28, L27, S23, W27).