

CHAO XU

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EDUCATION

University of California, Los Angeles (UCLA) , CA, USA	Sep. 2020 - June 2025
• Ph.D., Statistics	
• Advisors: Ying Nian Wu, Song-Chun Zhu	
University of Illinois at Urbana-Champaign (UIUC) , IL, USA	Sep. 2016 - May 2020
• B.S., Computer Engineering (High Honors)	
Zhejiang University (ZJU) , Zhejiang, China	Sep. 2016 - June 2020
• B.Eng., Electronics and Computer Engineering	

RESEARCH EXPERIENCE

Hillbot Inc.	June 2025 - Present
Staff Engineer, World Model.	
Hillbot Inc.	Feb. 2025 - June 2025
Mentor: Hao Su.	
<i>Worked on 3D foundation models for robotics.</i>	
Generative AI, Meta	Aug. 2024 - Feb. 2025
Mentor: Albert Pumarola.	
<i>Worked on efficient media foundation models.</i>	
Hillbot Inc.	Jan. 2024 - Aug. 2024
Mentor: Hao Su.	
<i>Worked on 3D reconstruction and generation.</i>	
SU Lab , UC San Diego	Jan. 2023 - June 2025
Advisor: Hao Su. <i>Visiting Graduate.</i>	
Center for Vision, Cognition, Learning and Autonomy (VCLA) , UCLA	Sep. 2020 - June 2025
Advisors: Song-Chun Zhu, Ying Nian Wu. <i>Graduate Student Researcher.</i>	
Center for Vision, Cognition, Learning and Autonomy (VCLA) , UCLA	June 2019 - Sep. 2019
Cross-disciplinary Scholars in Science and Technology (CSST)	
Advisor: Song-Chun Zhu. <i>Visiting Undergraduate Student Researcher.</i>	

PUBLICATIONS

MeshFormer: High-Quality Mesh Generation with 3D-Guided Reconstruction Model	NeurIPS 2024 Oral
– Minghua Liu*, Chong Zeng*, Xinyue Wei, Ruoxi Shi, Linghao Chen, Chao Xu , Mengqi Zhang, Zhaoning Wang, Xiaoshuai Zhang, Isabella Liu, Hongzhi Wu, Hao Su	[Paper] [Project]
– We introduce a sparse-view reconstruction model that explicitly leverages 3D native structure, input guidance, and training supervision.	
SpaRP: Fast 3D Object Reconstruction and Pose Estimation from Sparse Views	ECCV 2024
– Chao Xu , Ang Li, Linghao Chen, Yulin Liu, Ruoxi Shi, Hao Su [†] , Minghua Liu [†]	[Paper] [Project]
– Given sparse unposed views, we leverage rich priors embedded in multiview diffusion models to predict their poses and reconstruct the 3D shape.	
One-2-3-45++: Fast Single Image to 3D Objects with Consistent Multi-View Generation and 3D Diffusion	CVPR 2024
– M. Liu*, R. Shi*, L. Chen*, Z. Zhang*, Chao Xu* , X. Wei, H. Chen, C. Zeng, J. Gu, Hao Su	[Paper] [Project]
– We propose a new pipeline in the One-2-3-45's paradigm: More consistent multi-view generation (Zero123++) and better reconstruction (multi-view conditioned 3D native diffusion models).	

- One-2-3-45: Any Single Image to 3D Mesh in 45 Seconds without Per-Shape Optimization** NeurIPS 2023
- Minghua Liu*, **Chao Xu***, Haian Jin*, Linghao Chen*, Mukund V. T, Zexiang Xu, Hao Su [\[Paper\]](#) [\[Project\]](#)
 - We rethink how to leverage 2D diffusion models for 3D AIGC and introduce a novel forward-only paradigm that avoids time-consuming optimization.
- GAPartNet: Cross-Category Domain-Generalizable Object Perception and Manipulation via Generalizable and Actionable Parts** CVPR 2023 **Highlight** (Scores: 5, 5, 5)
- Haoran Geng*, Helin Xu*, Chengyang Zhao*, **Chao Xu**, Li Yi, Siyuan Huang, He Wang [\[Paper\]](#)
 - We learn parts of articulated objects across categories.
- PartAfford: Part-level Affordance Discovery** ECCVW 2022
- **Chao Xu**, Yixin Chen, He Wang, Song-Chun Zhu, Yixin Zhu, Siyuan Huang [\[Paper\]](#) [\[Video\]](#)
 - We discover part affordances on 3D objects across categories under weak supervision.

PRE-PRINTS & TECHNICAL REPORTS

- Zero123++: A Single Image to Consistent Multi-view Diffusion Base Model** Technical Report
- Ruoxi Shi, Hansheng Chen, Zhuoyang Zhang, Minghua Liu, **Chao Xu**, Xinyue Wei, Linghao Chen, Chong Zeng, Hao Su [\[Paper\]](#) [\[GitHub\]](#)
 - We improve consistency and image conditioning in single-image multi-view generation.

SELECTED HONORS & AWARDS

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| Outstanding Graduates, Zhejiang University | 2020 |
| Best Presentation Award, CSST, University of California, Los Angeles | 2019 |
| Meritorious Winner (Top 10%), Mathematical Contest in Modeling (MCM) | 2018 |
| National Scholarship (Top 1.5%), Ministry of Education of P.R. China | 2017 |
| First-Class Scholarship (Top 3%), Zhejiang University | 2017 |

INVITED TALKS

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| Our Pioneering Paradigm for Single Image to 3D, Peking University | Nov. 2023 |
| Part-level Affordance Discovery from 3D Objects, MURI Annual Meeting | Dec. 2021 |

PROFESSIONAL SERVICES

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|---|-------------|
| Reviewer, IEEE Transactions on Image Processing (TIP) | Since 2024 |
| Reviewer, IEEE Transactions on Visualization and Computer Graphics (TVCG) | Since 2024 |
| Reviewer, International Conference on Learning Representations (ICLR) | 2024-2025 |
| Reviewer, European Conference on Computer Vision (ECCV) | 2024 |
| Reviewer, International Conference on Machine Learning (ICML) | 2024-2025 |
| Reviewer, ACM Multimedia (ACMMM) | 2025 |
| Reviewer, Computer Vision and Pattern Recognition (CVPR) | 2023-2024 |
| Reviewer, Neural Information Processing Systems (NeurIPS) | 2023-2025 |
| Teaching Assistant for STATS 102C: Monte Carlo Methods, UCLA | 2023 |
| Teaching Assistant for STATS 10/13: Introduction to Statistical Reasoning, UCLA | 2021-2023 |
| Teaching Assistant for ECE 220: Computer Systems & Programming, UIUC | Fall 2019 |
| Teaching Assistant for CS 225: Data Structures, UIUC | Spring 2019 |