XIAOMING ZHAO

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https://xiaoming-zhao.com/

Interests **Multimodal intelligence**, **computer vision**, **generative models**, and **machine learning**.

Education

University of Illinois Urbana-Champaign, Urbana, IL, USA
- Doctor of Philosophy in Computer Science — 08/2019 - 12/2024
  - Advisor: Prof. Alexander Schwing
  - Thesis: Harnessing Data Priors to Mitigate 3D Data Scarcity
- Master of Science in Computer Science — 08/2017 - 05/2019
  - Advisor: Prof. Jian Peng

University of Science and Technology of China, Hefei, Anhui, China
- Bachelor of Science in Statistics — 09/2012 - 07/2016

Employments

Apple, Cupertino, CA, USA
- Research Scientist @ Foundation Model (AFM) Team — 02/2026 - present
- Research Scientist @ Machine Learning Research (MLR) Team — 12/2024 - 02/2026

Google, San Francisco, CA, USA
- Research Intern (*with Keunhong Park, Philipp Henzler, Pratul Srinivasan, Dor Verbin, Ricardo Martin-Brualla*) — 09/2023 - 08/2024

Apple, Seattle, WA, USA
- Research Intern (*with Alexander Schwing and Alex Colburn*) — 02/2023 - 09/2023

Reality Labs, Meta, Seattle, WA, USA
- Research Scientist Intern (*with Shunsuke Saito, Minh P. Vo, Jia-Bin Huang*) — 05/2022 - 12/2022

Apple, Seattle, WA, USA
- Machine Learning Research Intern (*with Alex Colburn and Fangchang Ma*) — 05/2021 - 05/2022

Kuaishou US R&D Center, Bellevue, WA, USA
- Research Intern (*with Ji Liu*) — 05/2019 - 08/2019

Tencent AI Lab, Bellevue, WA, USA
- Machine Learning Researcher Intern (*with Boqing Gong*) — 05/2018 - 08/2018

Products

[1] Third Generation of Apple's Foundation Models (AFM 3).
Core contributor to post-training efforts, with a primary focus on on-policy distillation.
In *Worldwide Developers Conference (**WWDC**)*, 2026.

Publications

[16] Velox: Learning Representations of 4D Geometry and Appearance.
Anagh Malik, Dorian Chan, **Xiaoming Zhao** David B. Lindell, Oncel Tuzel, Jen-Hao Rick Chang.
In *IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2026.

[15] LiTo: Surface Light Field Tokenization.
Jen-Hao Rick Chang*, **Xiaoming Zhao***, Dorian Chan, Oncel Tuzel.
(* indicates equal contribution)
In *International Conference on Learning Representations (**ICLR**)*, 2026.

[14] Studying Classifier(-Free) Guidance From a Classifier-Centric Perspective.
Xiaoming Zhao and Alexander G. Schwing.
In *AAAI Conference on Artificial Intelligence (**AAAI**)*, 2026.

[13] 3D Shape Tokenization via Latent Flow Matching.
Jen-Hao Rick Chang, Yuyang Wang, Miguel Ángel Bautista, Jiatao Gu, **Xiaoming Zhao**, Joshua M. Susskind, Oncel Tuzel
arXiv, 2025.

[12] IllumiNeRF: 3D Relighting Without Inverse Rendering.
Xiaoming Zhao, Pratul P. Srinivasan, Dor Verbin, Keunhong Park, Ricardo Martin Brualla, Philipp Henzler.
In *Neural Information Processing Systems (**NeurIPS**)*, 2024.

[11] GoMAvatar: Efficient Animatable Human Modeling from Monocular Video Using Gaussians-on-Mesh.
Jing Wen, **Xiaoming Zhao**, Zhongzheng Ren, Alexander G. Schwing, Shenlong Wang.
In *IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2024.

[10] NeRFDeformer: NeRF Transformation from a Single View via 3D Scene Flows.
Zhenggang Tang, Zhongzheng Ren, **Xiaoming Zhao**, Bowen Wen, Jonathan Tremblay, Stan Birchfield, Alexander G. Schwing.
In *IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2024.

[9] Pseudo-Generalized Dynamic View Synthesis from a Video.
Xiaoming Zhao, Alex Colburn, Fangchang Ma, Miguel Ángel Bautista, Joshua M. Susskind, Alexander G. Schwing.
In *International Conference on Learning Representations (**ICLR**)*, 2024.

[8] Occupancy Planes for Single-view RGB-D Human Reconstruction.
Xiaoming Zhao, Yuan-Ting Hu, Zhongzheng Ren, Alexander G. Schwing.
In *AAAI Conference on Artificial Intelligence (**AAAI**)*, 2023.

[7] Generative Multiplane Images: Making a 2D GAN 3D-Aware.
Xiaoming Zhao, Fangchang Ma, David Güera, Zhile Ren, Alexander G. Schwing, Alex Colburn.
In *European Conference on Computer Vision (**ECCV**)*, 2022. **(Oral)**.

[6] Initialization and Alignment for Adversarial Texture Optimization.
Xiaoming Zhao, Zhizhen Zhao, Alexander G. Schwing.
In *European Conference on Computer Vision (**ECCV**)*, 2022.

[5] Class-agnostic Reconstruction of Dynamic Objects from Videos.
Zhongzheng Ren*, **Xiaoming Zhao***, Alexander G. Schwing.
(* indicates equal contribution)
In *Neural Information Processing Systems (**NeurIPS**)*, 2021.

[4] The Surprising Effectiveness of Visual Odometry Techniques for Embodied PointGoal Navigation.
Xiaoming Zhao, Harsh Agrawal, Dhruv Batra, Alexander G. Schwing.
In *International Conference on Computer Vision (**ICCV**)*, 2021.

[3] Mitigating Data Scarcity in Protein Binding Prediction Using Meta-Learning.
Yunan Luo*, Jianzhu Ma*, **Xiaoming Zhao**, Yufeng Su, Yang Liu, Trey Ideker, Jian Peng.
In *Research in Computational Molecular Biology (**RECOMB**)*, 2019.

[2] Integrating Thermodynamic and Sequence Contexts Improves Protein-RNA Binding Prediction.
Yufeng Su, Yunan Luo, **Xiaoming Zhao**, Yang Liu, Jian Peng.
PLOS Computational Biology, 2019.

[1] Stochastic Variance Reduction for Deep Q-Learning.
Wei-Ye Zhao, Xi-Ya Guan, Yang Liu, **Xiaoming Zhao**, Jian Peng.
arXiv, 2019.

Patents

[1] Relightable 3D Reconstruction and View Synthesis.
Philipp Henzler, Ricardo Martin Brualla, **Xiaoming Zhao**, Pratul Preeti Srinivasan, Dor Verbin, Keunhong Park.
US Patent 20250378633A1 (pending), 2025.

Awards and Honors

Professional Services

CVPR Outstanding Area Chair	2026
CVPR Outstanding Reviewer	2025

University of Illinois Urbana-Champaign

University nomination (one of three) for 2023 Apple Scholars in AI/ML	2022
Graduate Student SSBG Fellowship	2020

University of Science and Technology of China

Outstanding Graduates	2016
Outstanding Undergraduate Scholarship	2013, 2015
Seagate Scholarship	2014
Outstanding Freshman Scholarship	2012

Ministry of Education, China

Honorably received waiver for the National College Entrance Exam	2012

Chinese Chemical Society

Silver Medalist nation-wide, the 25^{th} Chinese Chemistry Olympiad	2011

Services

Area Chair for International Conferences

IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)	2026

Reviewer for Journals

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)	2023 - present
IEEE Transactions on Visualization and Computer Graphics (TVCG)	2024 - present
International Journal of Computer Vision (IJCV)	2023 - present
ACM Computing Surveys	2024 - present

Reviewer for International Conferences

IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)	2022 - present
International Conference on Computer Vision (ICCV)	2023 - present
European Conference on Computer Vision (ECCV)	2024 - present
Neural Information Processing Systems (NeurIPS)	2022 - present
International Conference on Machine Learning (ICML)	2022 - present
International Conference on Learning Representations (ICLR)	2023 - present
ACM SIGGRAPH	2026 - present
ACM SIGGRAPH Asia	2025 - present
Annual Conference of the European Association for Computer Graphics (EG)	2024 - present
AAAI Conference on Artificial Intelligence (AAAI)	2023, 2026

IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2024

Talks

Harnessing "Dark" Data

Waymo Research, Adobe, Figma, xAI, Amazon, Google 09/2024
Microsoft Applied Science, Apple Machine Learning Research, ByteDance 08/2024
Google DeepMind 07/2024

IllumiNeRF: 3D Relighting without Inverse Rendering

Google 07/2024

Towards Automatic 3D-Consistent Content Generation

Adobe Research 03/2024

Pseudo-Generalized Dynamic View Synthesis from a Video

Apple 06/2024
Google 01/2024

Generative Multiplane Images

Meta 08/2022

Teaching

University of Illinois Urbana-Champaign

CS588: Autonomous Vehicle System Engineering Fall 2021
CS446/ECE449: Machine Learning Spring 2021
CS440/ECE448: Artificial Intelligence Fall 2020
CS498AML: Applied Machine Learning Spring 2019
CS598BL: Special Topics on Adversarial Machine Learning Fall 2018