

Jeff Tan

CONTACT

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EDUCATION

Stanford University , Stanford, CA	09/2025 - Present
Ph.D. in Computer Science	
• First-Year Rotation w/ Prof. Jiajun Wu	
Carnegie Mellon University , Pittsburgh, PA	08/2023 - 08/2025
M.S. in Robotics (Research Thesis, GPA 4.17/4.33)	
• Thesis: <i>Dynamic and Large-Scale 3D Reconstruction via Test-Time Optimization with Priors</i>	
• Advisor: Prof. Deva Ramanan	
Carnegie Mellon University , Pittsburgh, PA	08/2019 - 05/2023
B.S. in Computer Science (GPA 3.96/4.00)	
• Thesis: <i>Distilling Neural Fields for Real-Time Articulated Shape Reconstruction</i>	
• Concentration in Computer Graphics, Computer Systems, Algorithms	

PUBLICATIONS

- Benchmarking Calibration-Robust Stereo Geometry Estimation in the Wild.**
Jeff Tan, Nikhil Keetha, Yifei Liu, Shubham Tulsiani, Deva Ramanan.
Under Review, 2025.
• We find that stereo geometry estimators perform poorly on real-world in-the-wild data.
- CRISP: Contact-guided Real2Sim from Monocular Video with Planar Scene Primitives.**
Zihan Wang*, Jiashun Wang*, **Jeff Tan**, Yiwen Zhao, Jessica Hodgins, Shubham Tulsiani, Deva Ramanan.
Under Review, 2025. [[Website](#)]
• We significantly improve terrain reconstruction for humanoid real-to-sim from RGB videos.
- MonoFusion: Sparse-View 4D Reconstruction via Monocular Fusion.**
Zihan Wang, **Jeff Tan**, Tarasha Khurana, Neehar Peri, Deva Ramanan.
ICCV, 2025. [[Website](#)] [[Paper](#)] [[Github](#)]
• We reconstruct dynamic human-centric scenes (e.g. playing the piano and bicycle repair) from sparse-view video.
- DiffusionSfM: Predicting Structure and Motion via Ray Origin and Endpoint Diffusion.**
Qitao Zhao, Amy Lin, **Jeff Tan**, Jason Y. Zhang, Deva Ramanan, Shubham Tulsiani.
CVPR, 2025. [[Website](#)] [[Paper](#)]
• An end-to-end diffusion framework that performs multi-view reasoning alongside dense per-image pointmap estimation, given sparse-view images as input.
- DressRecon: Freeform 4D Human Reconstruction from Monocular Videos.**
Jeff Tan, Donglai Xiang, Shubham Tulsiani, Deva Ramanan, Gengshan Yang.
3DV, 2025 (Oral). [[Website](#)] [[arXiv](#)] [[Github](#)]
• We reconstruct humans in loose clothing and interacting with objects, given a single monocular video as input, using a hierarchical deformation field and image-based priors.
- Distilling Neural Fields for Real-Time Articulated Shape Reconstruction.**
Jeff Tan, Gengshan Yang, and Deva Ramanan.
CVPR, 2023. [[Website](#)] [[Paper](#)] [[Github](#)]
• We learn real-time feed-forward pose and shape predictors, by distilling knowledge from offline

differentiable rendering optimizers.

AWARDS	NSF Graduate Research Fellowship CMU Alumni Award for Undergraduate Excellence CMU Summer Undergraduate Research Fellowship	2023 - 2028 2023 2021
RESEARCH EXPERIENCE	Stanford University , Stanford Vision and Learning Lab Graduate Student Researcher (Advisor: Prof. Jiajun Wu) • Real-to-sim scene reconstruction for humanoid-object interaction • Deep visual dynamic SLAM for unconstrained Internet videos via vision foundation models	09/2025 - Present
	Carnegie Mellon University , Center for Autonomous Vehicle Research Graduate Student Researcher (Advisor: Prof. Deva Ramanan) • Reconstruct dynamic 3D humans with loose clothing and handheld objects from a single video • Large-scale, photorealistic 3D site modeling from aerial and ground imagery (IARPA WRIVA) • 4D reconstruction of skilled human activities from sparse multi-view video • Repurposing pretrained diffusion models for geometry and pointmap estimation • Benchmarking stereo geometry estimators within in-the-wild settings	08/2023 - 08/2025
	Carnegie Mellon University , Center for Autonomous Vehicle Research Undergraduate Researcher (Advisor: Prof. Deva Ramanan) • Train real-time feed-forward shape, pose, and appearance predictors by distilling offline-optimized dynamic NeRFs for object categories • Improve efficiency of 4D reconstruction from casual monocular video collections	02/2022 - 08/2023
TEACHING EXPERIENCE	Carnegie Mellon University , Pittsburgh, PA • Teaching Assistant, Physics-Based Rendering (15-468) • Teaching Assistant, Parallel Computation (15-418) • Teaching Assistant, Introduction to Computer Systems (15-213)	Spring 2023, Spring 2024 Fall 2021, Spring 2022, Spring 2023 Fall 2021
SERVICE	Reviewer: CVPR, ECCV, ICLR, NeurIPS, WACV	
WORK EXPERIENCE	Bodo AI <i>Software Engineer Intern</i> , Pittsburgh, PA • Develop a JIT compiler that auto-parallelizes Python and SQL code.	05/2022 - 08/2022 02/2023 - 08/2023
	KLA Corporation <i>Algorithms Intern</i> , Ann Arbor, MI • Train physics-informed neural networks for solving forward and inverse PDE problems.	05/2021 - 08/2021
SOFTWARE	Lab4D: A framework for in-the-wild 4D reconstruction from monocular videos. Gengshan Yang, Jeff Tan, Alex Lyons, Neehar Peri, Deva Ramanan. [Github] [Docs] A Python library for 4D reconstruction of humans, animals, and scenes from monocular videos.	
SKILLS	Programming: Python, C++, C, OCaml, JavaScript, x86 Assembly Software: PyTorch, JAX, NumPy, CUDA Languages: English (native), Chinese (fluent) Citizenship: United States	