

# Jeff Tan

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CONTACT	Website: <a href="https://jefftan969.github.io">https://jefftan969.github.io</a> Email: jefftan1@stanford.edu	
EDUCATION	<b>Stanford University</b> , Stanford, CA Ph.D. in Computer Science <ul style="list-style-type: none"><li>First-Year Rotation w/ Prof. Jiajun Wu</li></ul>	09/2025 - Present
	<b>Carnegie Mellon University</b> , Pittsburgh, PA M.S. in Robotics (Research Thesis, GPA 4.17/4.33) <ul style="list-style-type: none"><li>Thesis: <i>Dynamic and Large-Scale 3D Reconstruction via Test-Time Optimization with Priors</i></li><li>Advisor: Prof. Deva Ramanan</li></ul>	08/2023 - 08/2025
	<b>Carnegie Mellon University</b> , Pittsburgh, PA B.S. in Computer Science (GPA 3.96/4.00) <ul style="list-style-type: none"><li>Thesis: <i>Distilling Neural Fields for Real-Time Articulated Shape Reconstruction</i></li><li>Concentration in Computer Graphics, Computer Systems, Algorithms</li></ul>	08/2019 - 05/2023
PUBLICATIONS	<b>Benchmarking Calibration-Robust Stereo Geometry Estimation in the Wild.</b> Jeff Tan, Nikhil Keetha, Yifei Liu, Shubham Tulsiani, Deva Ramanan. <i>Under Review</i> , 2025. <ul style="list-style-type: none"><li>We find that stereo geometry estimators perform poorly on real-world in-the-wild data.</li></ul>	
	<b>CRISP: Contact-guided Real2Sim from Monocular Video with Planar Scene Primitives.</b> Zihan Wang*, Jiashun Wang*, Jeff Tan, Yiwen Zhao, Jessica Hodgins, Shubham Tulsiani, Deva Ramanan. <i>Under Review</i> , 2025. [ <a href="#">Website</a> ] <ul style="list-style-type: none"><li>We significantly improve terrain reconstruction for humanoid real-to-sim from RGB videos.</li></ul>	
	<b>MonoFusion: Sparse-View 4D Reconstruction via Monocular Fusion.</b> Zihan Wang, Jeff Tan, Tarasha Khurana, Neehar Peri, Deva Ramanan. ICCV, 2025. [ <a href="#">Website</a> ] [ <a href="#">Paper</a> ] [ <a href="#">Github</a> ] <ul style="list-style-type: none"><li>We reconstruct dynamic human-centric scenes (e.g. playing the piano and bicycle repair) from sparse-view video.</li></ul>	
	<b>DiffusionSfM: Predicting Structure and Motion via Ray Origin and Endpoint Diffusion.</b> Qitao Zhao, Amy Lin, Jeff Tan, Jason Y. Zhang, Deva Ramanan, Shubham Tulsiani. CVPR, 2025. [ <a href="#">Website</a> ] [ <a href="#">Paper</a> ] <ul style="list-style-type: none"><li>An end-to-end diffusion framework that performs multi-view reasoning alongside dense per-image pointmap estimation, given sparse-view images as input.</li></ul>	
	<b>DressRecon: Freeform 4D Human Reconstruction from Monocular Videos.</b> Jeff Tan, Donglai Xiang, Shubham Tulsiani, Deva Ramanan, Gengshan Yang. 3DV, 2025 (Oral). [ <a href="#">Website</a> ] [ <a href="#">arXiv</a> ] [ <a href="#">Github</a> ] <ul style="list-style-type: none"><li>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.</li></ul>	
	<b>Distilling Neural Fields for Real-Time Articulated Shape Reconstruction.</b> Jeff Tan, Gengshan Yang, and Deva Ramanan. CVPR, 2023. [ <a href="#">Website</a> ] [ <a href="#">Paper</a> ] [ <a href="#">Github</a> ] <ul style="list-style-type: none"><li>We learn real-time feed-forward pose and shape predictors, by distilling knowledge from offline</li></ul>	

differentiable rendering optimizers.

AWARDS	<b>NSF Graduate Research Fellowship</b> 2023 - 2028 <b>CMU Alumni Award for Undergraduate Excellence</b> 2023 <b>CMU Summer Undergraduate Research Fellowship</b> 2021
RESEARCH EXPERIENCE	<b>Stanford University</b> , Stanford Vision and Learning Lab 09/2025 - Present Graduate Student Researcher (Advisor: Prof. Jiajun Wu) <ul style="list-style-type: none"><li>• Real-to-sim scene reconstruction for humanoid-object interaction</li><li>• Deep visual dynamic SLAM for unconstrained Internet videos via vision foundation models</li></ul> <b>Carnegie Mellon University</b> , Center for Autonomous Vehicle Research 08/2023 - 08/2025 Graduate Student Researcher (Advisor: Prof. Deva Ramanan) <ul style="list-style-type: none"><li>• Reconstruct dynamic 3D humans with loose clothing and handheld objects from a single video</li><li>• Large-scale, photorealistic 3D site modeling from aerial and ground imagery (IARPA WRIVA)</li><li>• 4D reconstruction of skilled human activities from sparse multi-view video</li><li>• Repurposing pretrained diffusion models for geometry and pointmap estimation</li><li>• Benchmarking stereo geometry estimators within in-the-wild settings</li></ul> <b>Carnegie Mellon University</b> , Center for Autonomous Vehicle Research 02/2022 - 08/2023 Undergraduate Researcher (Advisor: Prof. Deva Ramanan) <ul style="list-style-type: none"><li>• Train real-time feed-forward shape, pose, and appearance predictors by distilling offline-optimized dynamic NeRFs for object categories</li><li>• Improve efficiency of 4D reconstruction from casual monocular video collections</li></ul>
TEACHING EXPERIENCE	<b>Carnegie Mellon University</b> , Pittsburgh, PA <ul style="list-style-type: none"><li>• Teaching Assistant, Physics-Based Rendering (15-468) Spring 2023, Spring 2024</li><li>• Teaching Assistant, Parallel Computation (15-418) Fall 2021, Spring 2022, Spring 2023</li><li>• Teaching Assistant, Introduction to Computer Systems (15-213) Fall 2021</li></ul>
SERVICE	<b>Reviewer:</b> CVPR, ECCV, ICLR, NeurIPS, WACV
WORK EXPERIENCE	<b>Bodo AI</b> 05/2022 - 08/2022 <i>Software Engineer Intern</i> , Pittsburgh, PA 02/2023 - 08/2023 <ul style="list-style-type: none"><li>• Develop a JIT compiler that auto-parallelizes Python and SQL code.</li></ul> <b>KLA Corporation</b> <i>Algorithms Intern</i> , Ann Arbor, MI 05/2021 - 08/2021 <ul style="list-style-type: none"><li>• Train physics-informed neural networks for solving forward and inverse PDE problems.</li></ul>
SOFTWARE	<b>Lab4D: A framework for in-the-wild 4D reconstruction from monocular videos.</b> Gengshan Yang, <b>Jeff Tan</b> , Alex Lyons, Neehar Peri, Deva Ramanan. <a href="#">[Github]</a> <a href="#">[Docs]</a> A Python library for 4D reconstruction of humans, animals, and scenes from monocular videos.
SKILLS	<b>Programming:</b> Python, C++, C, OCaml, JavaScript, x86 Assembly <b>Software:</b> PyTorch, JAX, NumPy, CUDA <b>Languages:</b> English (native), Chinese (fluent) <b>Citizenship:</b> United States