Jeff Tan

CONTACT

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA
M.S. in Robotics (Research Thesis, GPA 4.17/4.33) 08/2023 - Present
- Advisor: Prof. Deva Ramanan

Carnegie Mellon University, Pittsburgh, PA
B.S. in Computer Science (GPA 3.96/4.00) 08/2019 - 05/2023
- Thesis: *Distilling Neural Fields for Real-Time Articulated Shape Reconstruction*
- Concentration in Computer Graphics, Computer Systems, Algorithms

PUBLICATIONS

DressRecon: Freeform 4D Human Reconstruction from Monocular Videos.
Jeff Tan, Donglai Xiang, Shubham Tulsiani, Deva Ramanan, Gengshan Yang.
3DV, 2025. [Website] [arXiv] [Github]

Distilling Neural Fields for Real-Time Articulated Shape Reconstruction.
Jeff Tan, Gengshan Yang, and Deva Ramanan.
CVPR, 2023. [Website] [Paper] [Github]

Using Deep Learning Sequence Models to Identify SARS-CoV-2 Divergence.
Yanyi Ding, Zhiyi Kuang, Yuxin Pei, Jeff Tan, Ziyu Zhang, and Joseph Konan.
arXiv, 2021. [arXiv]

RESEARCH EXPERIENCE

Carnegie Mellon University, Center for Autonomous Vehicle Research
Graduate Student Researcher (Advisor: Prof. Deva Ramanan) 08/2023 - Present
- 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)
- Explore pretrained diffusion models for pointmap prediction from image pairs
- Explore mesh-based radiance fields by revisiting classic differentiable rendering (e.g. SoftRas)
- Collaborating on 4D reconstruction of skilled human activities from sparse multi-view video

Carnegie Mellon University, Center for Autonomous Vehicle Research
Undergraduate Researcher (Advisor: Prof. Deva Ramanan) 02/2022 - 05/2023
- Train real-time feed-forward shape, pose, and appearance predictors by distilling offline-optimized dynamic NeRFs
- Improve efficiency of 4D reconstruction from casual monocular video collections

AWARDS

NSF Graduate Research Fellowship 2023 - 2028

CMU Alumni Award for Undergraduate Excellence 2023

CMU School of Computer Science Dean's List, High Honors, All Semesters 2019 - 2023

CMU Summer Undergraduate Research Fellowship 2021

TEACHING

Carnegie Mellon University, Pittsburgh, PA
- Teaching Assistant, Physics-Based Rendering (15-468) Spring 2023, Spring 2024
- Teaching Assistant, Parallel Computation (15-418) Fall 2021, Spring 2022, Spring 2023
- Teaching Assistant, Introduction to Computer Systems (15-213) Fall 2021

Work Experience

Bodo AI 05/2022 - 08/2022
Software Engineer Intern, Pittsburgh, PA 02/2023 - 08/2023
- Develop a JIT compiler that auto-parallelizes Python and SQL code by emitting low-level MPI

KLA Corporation
Algorithms Intern, Ann Arbor, MI 05/2021 - 08/2021
- Train physics-informed neural networks for solving forward and inverse problems involving PDEs, towards photolithography simulations.

Skills

Programming: Python, C++, C, OCaml, JavaScript, x86 Assembly

Software: PyTorch, JAX, Tensorflow, NumPy, CUDA

Languages: English (native), Chinese (fluent)