

Gene Chou

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EDUCATION

Cornell University 2023 -
PhD student in computer science
Advisors: Noah Snavely and Bharath Hariharan

Princeton University 2018 - 2022
BSE in computer science, minor in applied mathematics
Honors: magna cum laude, departmental GPA: 3.96 / 4.0

RESEARCH

3D Reconstruction | **Adobe Research** | *San Jose, CA* 5/2024 - 8/2024
Researched scene-level reconstruction and generation.

Generative AI | **Backflip AI** | *San Francisco, CA* 7/2023 - 9/2023
Scaled up 3D asset generation at a GenAI startup.

Vision + RL | **Disney Research Imagineering** | *Glendale, CA* 2/2023 - 7/2023
Combined large vision models and RL for human-robot interaction and sim-to-real transfer.

3D Scene Representations | **Princeton Computational Imaging Lab** | *Princeton, NJ* 3/2022 - 2/2023
Researched generalization and generation of neural scene representations, advised by Prof. Felix Heide.

Algorithmic Fairness | **Princeton Visual AI Lab** | *Princeton, NJ* 6/2021 - 12/2021
Stress-tested algorithmic fairness via synthetic data generation, advised by Prof. Olga Russakovsky.

Object Detection | **Multimedia Technology Lab at Academia Sinica** | *Taipei, Taiwan* 6/2020 - 8/2021
Improved object detection robustness and efficiency, advised by Prof. Hong-Yuan Mark Liao.

EXPERIENCE

Teaching
TA for Algorithms and Data Structures (2019 - 2022)

Service
Reviewer for CVPR, ICCV, ECCV, SIGGRAPH

Awards
NSF Graduate Research Fellowship (2023 - 2028)

PUBLICATIONS

MegaScenes: Scene-Level View Synthesis at Scale
J. Tung*, G. Chou*, R. Cai, G. Yang, K. Zhang, G. Wetzstein, B. Hariharan, N. Snavely *Arxiv 2024*
MegaScenes is a scene-level dataset containing 100K SfM reconstructions and 2M registered images, collected from Wikimedia Commons. We validate its effectiveness in training large-scale, generalizable models on the task of single image novel view synthesis.

YOLOR-Based Multi-Task Learning

HS. Chang, CY. Wang, R. Wang, **G. Chou**, HY. Liao

Arxiv 2023

Builds on YOLOR to jointly train multiple vision and vision-language tasks. Fast and lightweight.

Thin On-Sensor Nanophotonic Array Cameras

SIGGRAPH Asia 2023

P. Chakravarthula, J. Sun, X. Li, C. Lei, **G. Chou**, M. Bijelic, J. Froesch, A. Majumdar, F. Heide

Recovers images in broadband using a single flat metasurface optic and probabilistic deconvolution.

Diffusion-SDF: Conditional Generative Modeling of Signed Distance Functions

G. Chou, Y. Bahat, F. Heide

ICCV 2023

Performs diffusion on the latent space of neural SDFs to conditionally generate 3D objects.

GenSDF: Two-Stage Learning of Generalizable Signed Distance Functions

G. Chou, I. Chugunov, F. Heide

NeurIPS 2022

Reconstructs neural SDFs from raw input point clouds of over a hundred unseen object classes.