

# Gene Chou

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## EDUCATION

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- Cornell University** 2023 -  
PhD student in computer science  
Advisors: Noah Snaveley 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

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- Generative AI | Backflip AI** | *San Francisco, CA* 7/2023 - 9/2023  
Generated 3D assets (at scale, text and image conditioning) at a generative AI startup.
- Vision + RL | Disney Research Imagineering** | *Glendale, CA* 2/2023 - 7/2023  
Researched large vision models + 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.
- ML Algorithms | Multimedia Technology Lab at Academia Sinica** | *Taipei, Taiwan* 6/2020 - 8/2021  
Researched meta-learning and style transfer, advised by Prof. Hong-Yuan Mark Liao. Collaborated with industry to augment traffic data in different weather and lighting for improved monitoring.

## EXPERIENCE

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- Teaching**  
TA for Algorithms and Data Structures at Princeton (2019-2022)
- Reviewing**  
Reviewer for CVPR 2023, ICCV 2023
- Awards**  
NSF Graduate Research Fellowship (2023 - 2028)

## PUBLICATIONS

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- YOLOR-Based Multi-Task Learning** *Arxiv 2023*  
HS. Chang, CY. Wang, R. Wang, **G. Chou**, HY. Liao  
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.