Hansheng Chen

Stanford, CA

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Education

Stanford University Stanford, CA
Ph.D. in Computer Science Sept 2023 – Present
Co-advised by Prof. Leonidas Guibas and Prof. Gordon Wetzstein.

Tongji University Shanghai
M.S.E. in Vehicle Engineering, GPA 4.84/5.0 Sept 2020 – June 2023
Co-advised by Prof. Lu Xiong and Prof. Wei Tian.
B.E. in Vehicle Engineering (5 years), GPA 4.7/5.0 Sept 2015 – July 2020

Research Experience

I am passionate about generative models and their applications in vision and graphics, currently with a specific focus on diffusion models and 3D generation. Previously, I was experienced in image-based 6DoF pose estimation using geometric vision.

Adobe Research San Jose, CA
Research Intern June 2024 – Present

- Working on diffusion model theories with Sai Bi, Hao Tan, Zexiang Xu, Kai Zhang and Fujun Luan.

Stanford University Stanford, CA
Research Assistant Sept 2023 – Present

- Working on 3D generation and editing in Geometric Computation Group and the Stanford Computational Imaging Lab.

SU Lab, UC San Diego (Remote)
Research Intern May 2022 – Mar 2023

- Worked on generative radiance fields with diffusion models in Prof. Hao Su's lab.

DAMO Academy, Alibaba Group Hangzhou, Zhejiang
Research Intern June 2021 – Dec 2021

- Worked on probabilistic 6DoF pose estimation using perspective geometry with Dr. Pichao Wang and Dr. Fan Wang.

Tongji University Shanghai
Research Assistant Sept 2019 – June 2023

- Worked on probabilistic 6DoF pose estimation using perspective geometry, and its application in 3D object detection in Prof. Wei Tian's group.

Engineering Projects

As a racing enthusiast, I worked on Formula SAE aerodynamics during my undergraduate years.

TJU Racing, Tongji University Shanghai
Aerodynamics Lead Mar 2018 – June 2019

- Directed the aerodynamics group, worked on improving the aero efficiency and CFD accuracy.

Honors, Awards and Fellowships

- Qualcomm Innovation Fellowship, 2024
- Excellent Graduate of Shanghai, 2023
- CVPR Best Student Paper Award, 2022
- Excellent Graduate of Tongji University, 2020
- FSAE Japan Best Aerodynamics Award, 2019

Publications

- Diffusion Models

  Gaussian Mixture Flow Matching Models
  Hansheng Chen, Kai Zhang, Hao Tan, Zexiang Xu, Fujun Luan, Leonidas Guibas, Gordon Wetzstein, Sai Bi
  arXiv:2504.05304, 2025

- 3D Generation

  3D-Adapter: Geometry-Consistent Multi-View Diffusion for High-Quality 3D Generation
  Hansheng Chen, Bokui Shen, Yulin Liu, Ruoxi Shi, Linqi Zhou, Connor Z. Lin, Jiayuan Gu, Hao Su, Gordon Wetzstein, Leonidas Guibas
  arXiv:2410.18974, 2024

  GRM: Large Gaussian Reconstruction Model for Efficient 3D Reconstruction and Generation
  Yinghao Xu, Zifan Shi, Wang Yifan, **Hansheng Chen**, Ceyuan Yang, Sida Peng, Yujun Shen, Gordon Wetzstein
  ECCV, 2024

  One-2-3-45++: Fast Single Image to 3D Objects with Consistent Multi-View Generation and 3D Diffusion
  Minghua Liu, Ruoxi Shi, Linghao Chen, Zhuoyang Zhang, Chao Xu, Xinyue Wei, **Hansheng Chen**, Chong Zeng, Jiayuan Gu, Hao Su
  CVPR, 2024

  Zero123++: a Single Image to Consistent Multi-view Diffusion Base Model
  Ruoxi Shi, **Hansheng Chen**, Zhuoyang Zhang, Minghua Liu, Chao Xu, Xinyue Wei, Linghao Chen, Chong Zeng, Hao Su
  Technical report, 2023

  Single-Stage Diffusion NeRF: A Unified Approach to 3D Generation and Reconstruction
  Hansheng Chen, Jiatao Gu, Anpei Chen, Wei Tian, Zhuowen Tu, Lingjie Liu, Hao Su
  ICCV, 2023

- 3D Vision

  EPro-PnP: Generalized End-to-End Probabilistic Perspective-n-Points for Monocular Object Pose Estimation
  Hansheng Chen, Wei Tian, Pichao Wang, Fan Wang, Lu Xiong, Hao Li
  IEEE TPAMI, 2024 (invited paper)

  EPro-PnP: Generalized End-to-End Probabilistic Perspective-n-Points for Monocular Object Pose Estimation
  Hansheng Chen, Pichao Wang, Fan Wang, Wei Tian, Lu Xiong, Hao Li
  CVPR, 2022 (**oral, Best Student Paper**)

  MonoRUn: Monocular 3D Object Detection by Reconstruction and Uncertainty Propagation
  Hansheng Chen, Yuyao Huang, Wei Tian, Zhong Gao, Lu Xiong
  CVPR, 2021

Services

Reviewer for ICLR, ICML, NeurIPS, CVPR, ICCV, ECCV, SIGGRAPH, EUROGRAPHICS, IEEE TPAMI, IEEE TCVG

Invited Talks

- End-to-End 3D Vision and Graphics
  - ETHZ AIT Lab
  - CUHKSZ GAP Lab PaSS, hosted by Prof. Xiaoguang Han
- Single-Stage Diffusion NeRF: A Unified Approach to 3D Generation and Reconstruction
  - University of Tübingen Autonomous Vision Group
  - VALSE 2023
- EPro-PnP: Generalized End-to-End Probabilistic Perspective-n-Points for Monocular Object Pose Estimation
  - CVPR 2022 Best Student Paper presentation
  - ReadPaper, hosted by Prof. Harry Shum
  - Didi Chuxing Technology Co., hosted by Mr. Bob Zhang
  - Beijing Academy of Artificial Intelligence
  - TechBeat
  - HKUMed seminar
  - WAIC 2022

Miscellaneous

I used to be a hobbyist VFX creator, and the virtual experience spurred my interest in real photography. These hobbies have been motivating my research in computer graphics, especially 3D content creation and rendering.