

Anpei CHEN (陈安沛)

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[Homepage](#) [Google Scholar](#) [Github](#)

Birthday: Jan 10 1994

ABOUT ME

I'm an [ELLIS](#) Postdoc, jointly supervised by Prof. [Andreas GEIGER](#) (Universität Tübingen) and Prof. [Siyu TANG](#) (ETH Zürich). I obtained my Ph.D at the Chinese Academy of Sciences (ShanghaiTech) in 2022, working with Prof. [Jingyi Yu](#). During this time, I have been an intern at Disney Research (Los Angeles, USA) and [Hao SU's](#) Research Lab (University of California San Diego, USA). Before that, I received my Bachelor's degree in 2016 from Xidian University.

My research interests lie at the intersection of computer graphics and vision, mainly in 3D representation learning and generative models. I have a great passion for new things and ideas, my goal is to create magic and happiness. Outside my research, I love photography, badminton, and movie appreciation.

WORK AND EDUCATION EXPERIENCE

- AUG 2022 Group Leader at [AVG](#)
ELLIS PostDoc at [ETH Zürich](#) and [University of Tübingen](#)
- JAN 2022 PhD of Computer Science at [Chinese Academy of Sciences \(ShanghaiTech\)](#), [LAB](#)
- JULY 2018 Master of Computer Science at [Chinese Academy of Sciences](#), Shanghai, CHINA
Major: Computer Vision & Graphics & Photography
Course: Computer Vision I & II, Computer Graphics II, Machine Learning
Deep Learning, SLAM, Convex Optimization, Computer Photography
TA: Algorithm Analysis Fall 2016
- JULY 2016 Bachelor Degree in Electronic Information Science and Technology
[Xidian University](#), China
Awards: Special Prize of 26th Starfire Cup in Xidian University
The 11th College Outstanding Students of Science and Technology
Third Prize of 2015 National College Student Challenge Cup Academic Competition

PATENTS

- An Anti-motion sickness seat and method for seat balance adjustment (CN104972932A)
- A wearable electromyography arm ring (CN104586391A)
- A deep learning based surface light field rendering method for mobile device (CN109829967A)
- Method for Real-Time Rendering of Giga-Pixel Images (US Patent: 16970632)

ACADEMIC EXPERIENCE

WINTER 2020 1 YEAR	Research Assistant at UCSD SU LAB Advisor: Hao Su and Zexiang Xu Working on multi-view stereo reconstruction and neural rendering. More specifically, our goal is to design a fast generalizable radiance field reconstruction from Multi-View Stereo that we can reason new scenes just from a few sparse image samples.
WINTER 2018 4 MONTHS	Intern at DISNEY RESEARCH LA, <i>Lab Associate</i> Mentor: Kenny Mitchell Worked on global illumination rendering and human-to-cartoon body reconstruction system. More specifically, attempt to speed up path tracing process via optimizing the light path sampling algorithm according to its' temporal ray samples. I also took part in a human-to-cartoon project and in charge of recovering dynamic facial wrinkles. We submitted two patents during the internship.
SUMMER 2016 3 MONTHS	Intern at DGENE, <i>Engineer</i> DGene Worked on virtual reality device, object reconstruction and rendering. Stereo Video player on HTC Vive, fast refocusing algorithm with RGBD panorama input. And preparing a demo of digitalis products (Tang San Cai, bottle and handBag etc.) for Alibaba Buy+Act . Our solution is demonstrated on the conference due to its' high data compression performance (2000 : 1) and we also published a paper on I3D'18.

COMMUNITY SERVICES

Area Chair: CVPR 2023/24, 3DV 24

Journal reviewer: TOG, TIP, TPAMI, INFFUS ...

Conference reviewer: SIGGRAPH, SIGGRAPH Asia, ICCV, ICLR, NeurIPS, AAAI ...

Workshop: [Neural Rendering Intelligence \(CVPR'24\)](#)

SELECTED PUBLICATIONS

* denotes equal contribution or advising, † denotes corresponding author

► **NeLF-Pro: Neural Light Field Probes**

TL; DR: We represent diverse natural scenes using spatially distributed, learnable probes.

Zinuo You, Andreas Geiger, **Anpei Chen**†

final scores: 5,4,4

(CVPR'24) [\[project page\]](#) [\[paper\]](#) [\[code\]](#)

► **Mip-Splatting: Alias-free 3D Gaussian Splatting**

TL; DR: We eliminate multiple artifacts and achieve alias-free renderings for 3DGS.

Zehao Yu, **Anpei Chen**†, Binbin Huang, Torsten Sattler, Andreas Geiger

final scores: 5,5,5

(CVPR'24) [\[project page\]](#) [\[paper\]](#) [\[code\]](#)

► **MuRF: Multi-Baseline Radiance Fields**

TL; DR: We address sparse view synthesis under multiple different camera baseline settings.

Haofei Xu, **Anpei Chen**, Yuedong Chen, Christos Sakaridis, Yulun Zhang,

Marc Pollefeys, Andreas Geiger*, Fisher Yu*

(CVPR'24) [\[project page\]](#) [\[paper\]](#) [\[code\]](#)

- ▶ **GraphDreamer: Compositional 3D Scene Synthesis from Scene Graphs**
 TL; DR: We takes scene graphs as input and generates object compositional 3D scenes.
 Gege Gao, Weiyang Liu, **Anpei Chen**, Andreas Geiger, Bernhard Schölkopf
 (CVPR'24) [project page] [paper]
- ▶ **Dictionary Fields: Learning a Neural Basis Decomposition**
 TL; DR: We provide a unified formula for neural fields and a novel dictionary factorization.
Anpei Chen, Zexiang Xu, Xinyue Wei, Siyu Tang, Hao Su, Andreas Geiger
 (Trans. on Graphics SIGGRAPH'23) [project page] [paper] [code]
- ▶ **SDFStudio: A Unified Framework for Surface Reconstruction**
 TL; DR: We provide a unified framework and benchmark for neural implicit surface reconstruction.
 Zehao Yu, **Anpei Chen**, Bozidar Antic, Songyou Peng, Apratim Bhattacharyya,
 Michael Niemeyer, Siyu Tang, Torsten Sattler, Andreas Geiger
 (OpenSource Project) [project page]
- ▶ **TensorRF: Tensorial Radiance Fields**
 TL; DR: We present a novel factorize technique to model and reconstruct radiance fields.
Anpei Chen*, Zexiang Xu*, Andreas Geiger, Jingyi Yu, Hao Su
 Most influential ECCV'22 papers #2; final scores: 1,1
 (ECCV'22) [project page] [paper] [code] [NeRFStudio]
- ▶ **MVSNeRF: Fast Generalizable Radiance Field Reconstruction from Multi-View Stereo**
 TL; DR: We bridge multiview stereo with NeRF for generalizable novel view synthesis.
Anpei Chen*, Zexiang Xu*, Fuqiang Zhao, Xiaoshuai Zhang, Fanbo Xiang, Jingyi Yu, Hao Su
 (ICCV'21) [project page] [paper] [code]
- ▶ **GNeRF: GAN-based Neural Radiance Field without Posed Camera**
 TL; DR: We bridge generative model with NeRF for camera pose estimation and reconstruction.
 Quan Meng, **Anpei Chen**, Haimin Luo, Minye Wu, Hao Su, Lan Xu, Xuming He, Jingyi Yu
 (ICCV'21 Oral) [paper] [code]
- ▶ **SofGAN: A Portrait Image Generator with Dynamic Styling**
 TL; DR: We propose a GAN-based image generator with explicit attribute controlling.
Anpei Chen*, Ruiyang Liu*, Ling Xie, Zhang Chen, Hao Su and Jingyi Yu
 (Trans. on Graphics) [project page] [code]
- ▶ **A Neural Rendering Framework for Free-Viewpoint Relighting**
 TL; DR: We bridge scene relighting with novel view synthesis.
 Zhang Chen, **Anpei Chen**, Guli Zhang, Chengyuan Wang, Yu Ji, Kiriakos N. Kutulakos, Jingyi Yu
 (CVPR'20) [paper] [code]
- ▶ **Photo-Realistic Facial Details Synthesis From Single Image**
 TL; DR: We reconstruct 3D facial proxy and fine geometric details from single-image.
Anpei Chen, Zhang Chen, Guli Zhang, Ziheng Zhang, Kenny Mitchell, Jingyi Yu
 (ICCV'19 Oral) [paper] [code] [slides] [video]
- ▶ **Learning Semantics-aware Distance Map with Semantics Layering Network for Amodal Instance Segmentation**
 TL; DR: A novel semantics-aware distance map representation for amodal segmentation.
 Ziheng Zhang*, **Anpei Chen***, Ling Xie, Jingyi Yu, Shenghua Gao
 (ACM MM'19) [paper] [code]
- ▶ **Deep Surface Light Fields**
 TL; DR: One of the earliest implicit representation for novel view synthesis.
Anpei Chen, Minye Wu, Yingliang Zhang, Nianyi Li, Jie Lu, Shenghua Gao and Jingyi Yu
 (I3D'18) [paper] [video] [slides]