

Zhang Chen

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About Me

I am currently a Senior Research Engineer/Scientist at InnoPeak Technology (a.k.a. OPPO US Research Center), working on R&D for XR (AR/VR/MR) related projects. Before that, I was a visiting research scholar at Louisiana State University, where I worked with Dr. Jinwei Ye. I received my Ph.D. from ShanghaiTech University, advised by Dr. Jingyi Yu, and received my Bachelor's degree from Shanghai Jiao Tong University. My research interests lie in **computer vision, deep learning, computer graphics and computational photography**, with a focus on **neural rendering, implicit neural representation, and 3D reconstruction**.

Education

SCHOOL OF INFORMATION SCIENCE AND TECHNOLOGY, ShanghaiTech University

Shanghai, China

PHD IN COMPUTER SCIENCE

Sept. 2017 - Jan. 2022

- **Research Areas:** Computer Vision, Deep Learning, Computer Graphics, Computational Photography
- **Advisor:** [Dr. Jingyi Yu](#) | [Lab](#)

SCHOOL OF INFORMATION SCIENCE AND TECHNOLOGY, ShanghaiTech University

Shanghai, China

MASTER IN ELECTRICAL ENGINEERING (TRANSITION TO PHD)

Sept. 2014 - Sept. 2017

- **Research Areas:** Integrated Circuit
- **Advisor:** [Dr. Pingqiang Zhou](#) | [Lab](#)

UM-SJTU JOINT INSTITUTE, Shanghai Jiao Tong University

Shanghai, China

BACHELOR DEGREE IN ELECTRICAL AND COMPUTER ENGINEERING, MINOR IN ANIMATION

Sept. 2010 - Aug. 2014

Experience

InnoPeak Technology (a.k.a. OPPO US Research Center)

Palo Alto, CA

SENIOR RESEARCH ENGINEER

Aug. 2022 - Present

- Develop algorithms and systems for XR (AR/VR/MR) applications.

Louisiana State University

Baton Rouge, LA

VISITING RESEARCH SCHOLAR

Oct. 2021 - Jul. 2022

- **Advisor:** [Dr. Jinwei Ye](#)
- Develop polarimetric imaging algorithms and systems for 3D reconstruction of objects with challenging surface reflectance properties.
- Develop light field imaging algorithms for 3D reconstruction of underwater objects and fluid flow.

Google

San Francisco, CA (Remote)

RESEARCH INTERN

June 2020 - Dec. 2020

- Develop a multi-resolution implicit neural representation for 3D geometries, supporting numerous tasks including geometry auto-encoding/decoding/interpolation/completion.

Louisiana State University

Baton Rouge, LA

VISITING RESEARCH SCHOLAR

July 2018 - Jan. 2019

- **Advisor:** [Dr. Jinwei Ye](#)
- Develop an uncalibrated near-field color photometric stereo algorithm and system for high-fidelity human face reconstruction from single image.

Cadence

Shanghai, China

INTERN SOFTWARE ENGINEER

July 2016 - Sept. 2016

- Investigate routability-aware routing algorithms to reduce congestion and latency.

Publications

(* denotes equal contribution, † denotes corresponding author)

Conference

- [C1] **Spacetime Gaussian Feature Splatting for Real-Time Dynamic View Synthesis**
Zhan Li, **Zhang Chen**[†], Zhong Li[†], Yi Xu
CVPR 2024
[\[project page\]](#) [\[paper\]](#) [\[code\]](#)
- [C2] **NeuRBF: A Neural Fields Representation with Adaptive Radial Basis Functions**
Zhang Chen[†], Zhong Li[†], Liangchen Song, Lele Chen, Jingyi Yu, Junsong Yuan, Yi Xu
ICCV 2023 (Oral Presentation)
[\[project page\]](#) [\[paper\]](#) [\[code\]](#)
- [C3] **Relit-NeuLF: Efficient Relighting and Novel View Synthesis via Neural 4D Light Field**
Zhong Li, Liangchen Song, **Zhang Chen**, Xiangyu Du, Lele Chen, Junsong Yuan, Yi Xu
ACM MM 2023
[\[project page\]](#) [\[paper\]](#) [\[code\]](#)
- [C4] **High Fidelity 3D Hand Shape Reconstruction via Scalable Graph Frequency Decomposition**
Tianyu Luan, Yuanhao Zhai, Jingjing Meng, Zhong Li, **Zhang Chen**, Yi Xu, Junsong Yuan
CVPR 2023
[\[paper\]](#)
- [C5] **Multiresolution Deep Implicit Functions for 3D Shape Representation**
Zhang Chen, Yinda Zhang, Kyle Genova, Sean Fanello, Sofien Bouaziz, Christian Häne, Ruofei Du, Cem Keskin, Thomas Funkhouser, Danhang Tang
ICCV 2021
[\[paper\]](#)
- [C6] **A Neural Rendering Framework for Free-Viewpoint Relighting**
Zhang Chen, Anpei Chen, Guli Zhang, Chengyuan Wang, Yu Ji, Kiriakos N. Kutulakos, Jingyi Yu
CVPR 2020
[\[paper\]](#) [\[code\]](#)
- [C7] **3D Face Reconstruction Using Color Photometric Stereo with Uncalibrated Near Point Lights**
Zhang Chen, Yu Ji, Mingyuan Zhou, Sing Bing Kang, Jingyi Yu
ICCP 2020
[\[paper\]](#)
- [C8] **An Optical Flow Based Multi-Object Tracking Approach Using Sequential Convex Programming**
Qingwen Xu, Zhengpeng He, **Zhang Chen**, Yuning Jiang
ICARCV 2020
[\[paper\]](#)
- [C9] **Photo-Realistic Facial Details Synthesis From Single Image**
Anpei Chen, **Zhang Chen**, Guli Zhang, Ziheng Zhang, Kenny Mitchell, Jingyi Yu
ICCV 2019 (Oral Presentation)
[\[project page\]](#) [\[paper\]](#) [\[code\]](#)
- [C10] **Deep Eyes: Binocular Depth-from-Focus on Focal Stack Pairs**
Xinqing Guo*, **Zhang Chen***, Siyuan Li, Yang Yang, Jingyi Yu
PRCV 2019 (Oral Presentation)
[\[paper\]](#)

[C11] ***Sparse Photometric 3D Face Reconstruction Guided by Morphable Models***

Xuan Cao, **Zhang Chen**, Anpei Chen, Xin Chen, Shiyong Li, Jingyi Yu

CVPR 2018

[\[paper\]](#)

[C12] ***How Secure Is Split Manufacturing in Preventing Hardware Trojan?***

Zhang Chen, Pingqiang Zhou, Tsung-Yi Ho, Yier Jin

AsianHOST 2016

[\[paper\]](#)

Journal

[J1] ***Polarimetric Helmholtz Stereopsis***

Yuqi Ding, Yu Ji, **Zhang Chen**, Mingyuan Zhou, Sing Bing Kang, Jinwei Ye

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2024

[\[paper\]](#)

[J2] ***NeRFPlayer: A Streamable Dynamic Scene Representation with Decomposed Neural Radiance Fields***

Liangchen Song, Anpei Chen, Zhong Li, **Zhang Chen**, Lele Chen, Junsong Yuan, Yi Xu, Andreas Geiger

IEEE Transactions on Visualization and Computer Graphics (TVCG) 2023 (Present at IEEE VR 2023)

[\[project page\]](#) [\[paper\]](#)

[J3] ***Full-Volume 3D Fluid Flow Reconstruction with Light Field PIV***

Yuqi Ding, Zhong Li, **Zhang Chen**, Yu Ji, Jingyi Yu, Jinwei Ye

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2023

[\[project page\]](#) [\[paper\]](#)

[J4] ***Light Field-Based Underwater 3D Reconstruction Via Angular Resampling***

Yuqi Ding, **Zhang Chen**, Yu Ji, Jingyi Yu, Jinwei Ye

IEEE Transactions on Computational Imaging (TCI) 2023

[\[paper\]](#)

[J5] ***SofGAN: A Portrait Image Generator with Dynamic Styling***

Anpei Chen*, Ruiyang Liu*, Ling Xie, **Zhang Chen**, Hao Su, Jingyi Yu

ACM Transactions on Graphics (TOG) 2022 (Present at SIGGRAPH 2022)

[\[project page\]](#) [\[paper\]](#) [\[code\]](#)

[J6] ***Deep Eyes: Joint Depth Inference Using Monocular and Binocular Cues***

Zhang Chen*, Xinqing Guo*, Siyuan Li, Yang Yang, Jingyi Yu

Neurocomputing 2021

[\[paper\]](#) [\[data\]](#)

[J7] ***How Secure Is Split Manufacturing in Preventing Hardware Trojan?***

Yajun Yang, **Zhang Chen**, Yuan Liu, Tsung-Yi Ho, Yier Jin, Pingqiang Zhou

ACM Transactions on Design Automation of Electronic Systems (TODAES) 2020

[\[paper\]](#)

Patent

Jingyi Yu, **Zhang Chen**, Anpei Chen, Xin Chen, and Shiyong Li. "3D Human Face Reconstruction Method, System, Image Processing System and Storage Medium." CN111696146A. Mar. 14 2019.

Skills

Programming Languages Python, MATLAB, C/C++, \LaTeX
Python/Machine Learning PyTorch, TensorFlow, MXNet, OpenCV
Platform/Software Linux, Windows, Git, Docker, conda, Agisoft Metashape

Professional Activities

Conference Reviewer

SIGGRAPH (2024); CVPR (2022-2024); ICCV (2023); ECCV (2022, 2024); IEEE VR (2024); ACM MM (2023); 3DV (2022, 2024); IJCAI (2023-2024); WACV (2023-2024)

Journal Reviewer

TPAMI; TIP

Invited Talks

Low-Cost Realistic 3D Face Reconstruction. School of Electrical Engineering & Computer Science, Louisiana State University. September, 2018.

Course Lecturing

Programming Digital Media. School of Electrical Engineering & Computer Science, Louisiana State University. Jan.-May, 2022.

Honors & Awards

- 2019 **Best Paper Nomination**, PRCV 2019
- 2016 **National Scholarship**, ShanghaiTech University
- 2016 **Outstanding Student**, ShanghaiTech University
- 2015 **Outstanding Student**, ShanghaiTech University
- 2014 **Outstanding Graduate**, Shanghai Jiao Tong University