

Zhi-Hao Lin

Curriculum Vitae

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📁 <https://zhihao-lin.github.io>

Research Interests

3D Computer Vision, Geometric Deep Learning, Neural Rendering.

Education

- May. 2021 - **University of Illinois Urbana-Champaign, USA.**
present Visiting Student,
Advisor: Prof. Shenlong Wang [📄 link](#)
- Sept. 2019 - **National Taiwan University, Taiwan.**
Apr. 2021 M.S. in Communication Engineering,
Advisor: Prof. Yu-Chiang Frank Wang [📄 link](#)
- Sept. 2015 - **National Taiwan University, Taiwan.**
Jun. 2019 B.S. in Electrical Engineering

Publications

- [3] **NeurMiPs: Neural Mixture of Planar Experts for View Synthesis.**
Zhi-Hao Lin, Wei-Chiu Ma, Hao-Yu Hsu, Yu-Chiang Frank Wang, Shenlong Wang
CVPR, 2022. [📄 project](#) [📄 code](#)
- [2] **Learning of 3D Graph Convolution Networks for Point Cloud Analysis.**
Zhi-Hao Lin, Sheng-Yu Huang, Yu-Chiang Frank Wang,
TPAMI, 2021. [📄 paper](#) [📄 IEEE](#)
- [1] **Convolution in the Cloud: Learning Deformable Kernels in 3D Graph Convolution Networks for Point Cloud Analysis.**
Zhi-Hao Lin, Sheng-Yu Huang, Yu-Chiang Frank Wang,
CVPR, 2020. [📄 paper](#) [📄 supp](#) [📄 video](#) [📄 code](#)

Research Experience

- Apr. 2021 - **Vision Group**, University of Illinois Urbana-Champaign, USA.
Present **Visiting Student**
Advisor: Prof. Shenlong Wang [📄 link](#)
- Proposed a novel 3D representation that represents scenes with multiple learnable planes for novel view synthesis,
 - Outperformed NeRF and MPI methods in extreme view extrapolation. [CVPR, 2022]
- Sept. 2018 - **Vision & Learning Lab**, National Taiwan University, Taipei, Taiwan.
Present **Master Student, Research Assistant**
Advisor: Prof. Yu-Chiang Frank Wang [📄 link](#)
- Provided a thorough study on 3D reconstruction algorithms with various representations.
 - Proposed a point cloud analysis framework that is shift and scale-invariant, and demonstrated robustness in object-level tasks. [CVPR, 2020]
 - Verified that our point cloud analysis framework is robust to object rotation and outlier points, and outperformed previous works in scene-level task. [TPAMI, 2021]

Sept. 2018 - **Internet Research Lab**, National Taiwan University, Taipei, Taiwan.

Jan. 2019 **Undergraduate Researcher**

Advisor: Prof. Wan-jiun Liao  [link](#)

- Surveyed papers for resource allocation in multi-user virtual reality system.

Honors & Awards

2022 **Best Master Thesis Award**, Graduate Institute of Communication Engineering, NTU.

2021 **Best Master Thesis Award**, The Chinese Image Processing and Pattern Recognition Society (IPPR).

2021 **Best Master Thesis Award**, Taiwanese Association for Artificial Intelligence (TAAI).

2021 **Best Master Thesis Award**, Taiwan Society of Architectural Medicine (TSAM).

2020 **Novatek Education Foundation Scholarship.**

2020 **E.SUN Commercial Bank Scholarship.**

Teaching Experience & Talks

Nov. 2021 **Invited talk**, Taiwanese Association for Artificial Intelligence (TAAI).

Aug. 2021 **Invited talk**, The Chinese Image Processing and Pattern Recognition Society (IPPR).

Nov. 2020 **Invited talk**, The 4th Workshop on Augmented Intelligent and Interaction, Taiwan.

Fall 2019 **Teaching Assistant**, Deep Learning for Computer Vision.

Fall 2019 **Teaching Assistant**, Environmental Protection Service.

Spring 2019 **Teaching Assistant**, Signal & System.

Work Experience

Jul. 2018 - **Microsoft**, Taipei, Taiwan.

Jun. 2019 **Software engineer intern**

- Cooperated with engineers and developed software to improve performance of Bing Map, which is the map service of Microsoft.

Selected Projects

Dec. 2018 **Virtual Reality Streaming**  [link](#), Final Project of Embedded System course.

- Used Raspberry Pi and camera to build a streaming system, allowing people to interact in video call. Please refer to project page for more detail and demo video.

Skills

Programming C++, Python (PyTorch), \LaTeX

Language Chinese (Mandarin), English