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 - present	**University of Illinois Urbana-Champaign**, USA. Visiting Student, Advisor: Prof. Shenlong Wang ℹ link
Sept. 2019 - Apr. 2021	**National Taiwan University**, Taiwan. M.S. in Computer Science, Advisor: Prof. Yu-Chiang Frank Wang ℹ link
Sept. 2015 - Jun. 2019	**National Taiwan University**, Taiwan. 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. ℹ project ℹ code

[2] **Learning of 3D Graph Convolution Networks for Point Cloud Analysis**.
Zhi-Hao Lin, Sheng-Yu Huang, Yu-Chiang Frank Wang,
TPAMI, 2021. ℹ paper ℹ 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. ℹ paper ℹ supp ℹ video ℹ code

Research Experience

Apr. 2021 - Present	**Vision Group**, University of Illinois Urbana-Champaign, USA. **Visiting Student** Advisor: Prof. Shenlong Wang ℹ 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 - Present	**Vision & Learning Lab**, National Taiwan University, Taipei, Taiwan. **Master Student**, **Research Assistant** Advisor: Prof. Yu-Chiang Frank Wang ℹ 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 - Jan. 2019	**Internet Research Lab**, National Taiwan University, Taipei, Taiwan. **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 - Jun. 2019	**Microsoft**, Taipei, Taiwan. **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