

Education

- 2017–2022 **Ph.D.**, *National Taiwan University*, Taipei, Taiwan.
Department of Computer Science and Information Engineering, CMLAB
Thesis: Restoring and Enhancing Images and Videos by Combining Modeling and Learning
Advisor: Yung-Yu Chuang [link](#)
- 2012–2014 **M.S.**, *National Chiao-Tung University*, Hsinchu, Taiwan.
Institute of Electronics, CommLab
Thesis: Wide-Angle Virtual View Synthesis with Depth-Based Background Modeling
Advisor: Hsueh-Ming Hang [link](#)
- 2008–2012 **B.S.**, *National Chiao-Tung University*, Hsinchu, Taiwan.
Department of Electronics Engineering

Work Experience

- Feb. 2023 – **Department of Computer Science, National Yang Ming Chiao Tung University.**
Assistant Professor
- May 2022 – **Meta Reality Labs Research.**
Oct. 2022 *Research Scientist Intern*
- Jun. 2017 – **MediaTek Inc.**
Feb. 2022 *Senior Algorithm Development Engineer*
- Sep. 2014 – **MediaTek Inc.**
Jun. 2017 *Algorithm Development Engineer*

Publications [\(Google Scholar profile\)](#)

Journal papers

- TPAMI 2021 **Learning to See Through Obstructions with Layered Decomposition.**
[Yu-Lun Liu](#), Wei-Sheng Lai, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang
IEEE Transactions on Pattern Analysis and Machine Intelligence, 2021 [paper](#) [project](#)

Conference papers

- ICCV 2023 **Learning Continuous Exposure Value Representations for Single-Image HDR Reconstruction.**
Su-Kai Chen, Hung-Lin Yen, [Yu-Lun Liu](#), Min-Hung Chen, Hou-Ning Hu, Wen-Hsiao Peng and Yen-Yu Lin
Proceedings of the IEEE/CVF International Conference on Computer Vision, 2023 [project](#)
- ICCV 2023 **ImGeoNet: Image-induced Geometry-aware Voxel Representation for Multi-view 3D Object Detection.**
Tao Tu, Shun-Po Chuang, [Yu-Lun Liu](#), Cheng Sun, Ke Zhang, Donna Roy, Cheng-Hao Kuo, Min Sun
Proceedings of the IEEE/CVF International Conference on Computer Vision, 2023 [project](#)
- CVPR 2023 **Progressively Optimized Local Radiance Fields for Robust View Synthesis.**
Andreas Meuleman, [Yu-Lun Liu](#), Chen Gao, Jia-Bin Huang, Changil Kim, Min H. Kim, Johannes Kopf
Proceedings of IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2023 [paper](#) [project](#)
- CVPR 2023 **Robust Dynamic Radiance Fields.**
[Yu-Lun Liu](#), Chen Gao, Andreas Meuleman, Hung-Yu Tseng, Ayush Saraf, Changil Kim, Yung-Yu Chuang, Johannes Kopf, Jia-Bin Huang
Proceedings of IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2023 [paper](#) [project](#)
- ICLR 2022 **Denosing Likelihood Score Matching for Conditional Score-based Data Generation .**
Chen-Hao Chao, Wei-Fang Sun, Bo-Wun Cheng, Yi-Chen Lo, Chia-Che Chang, [Yu-Lun Liu](#), Yu-Lin Chang, Chia-Ping Chen, and Chun-Yi Lee
International Conference on Learning Representations, 2022 [paper](#)

- ICCV 2021 **Bridging Unsupervised and Supervised Depth from Focusvia All-in-Focus Supervision.**
Ning-Hsu Wang, Ren Wang, [Yu-Lun Liu](#), Yu-Hao Huang, Yu-Lin Chang, Chia-Ping Chen, and Kevin Jou
Proceedings of IEEE/CVF Conference on Computer Vision, 2021 [i](#) [paper](#) [i](#) [project](#)
- ICCV 2021 **Hybrid Neural Fusion for Full-frame Video Stabilization.**
[Yu-Lun Liu](#), Wei-Sheng Lai, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang
Proceedings of IEEE/CVF Conference on Computer Vision, 2021 [i](#) [paper](#) [i](#) [project](#)
- ICPR 2020 **Explorable Tone Mapping Operators.**
Chien-Chuan Su, Ren Wang, Hung-Jin Lin, [Yu-Lun Liu](#), Chia-Ping Chen, Yu-Lin Chang, and Soo-Chang Pei
Proceedings of the 25th International Conference on Pattern Recognition, 2020 [i](#) [paper](#)
- ECCV 2020 **Learning Camera-Aware Noise Models.**
Ke-Chi Chang, Ren Wang, Hung-Jin Lin, [Yu-Lun Liu](#), Chia-Ping Chen, Yu-Lin Chang, and Hwann-Tzong Chen
Proceedings of European Conference on Computer Vision, 2020 [i](#) [paper](#) [i](#) [project](#)
- CVPR 2020 **Learning to See Through Obstructions.**
[Yu-Lun Liu](#), Wei-Sheng Lai, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang
Proceedings of IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2020 [i](#) [paper](#) [i](#) [project](#)
- CVPR 2020 **Single-Image HDR Reconstruction by Learning to Reverse the Camera Pipeline.**
[Yu-Lun Liu*](#), Wei-Sheng Lai*, Yu-Sheng Chen, Yi-Lung Kao, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang
Proceedings of IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2020 [i](#) [paper](#) [i](#) [project](#)
- AAAI 2020 **Attention-based View Selection Networks for Light-field Disparity Estimation.**
Yu-Ju Tsai, [Yu-Lun Liu](#), Yung-Yu Chuang, and Ming Ouhyoung
Proceedings of AAAI Conference on Artificial Intelligence, 2020 [i](#) [paper](#)
- AAAI 2019 **Deep Video Frame Interpolation using Cyclic Frame Generation.**
[Yu-Lun Liu](#), Yi-Tung Liao, Yen-Yu Lin, and Yung-Yu Chuang
Proceedings of AAAI Conference on Artificial Intelligence, 2019 [i](#) [paper](#) [i](#) [project](#)
Oral Presentation
- APSIPA 2014 **Background modeling using depth information.**
[Yu-Lun Liu](#) and Hsueh-Ming Hang
Signal and Information Processing Association Annual Summit and Conference, 2014
- PCS 2013 **Virtual view synthesis using backward depth warping algorithm.**
Du-Hsiu Li, Hsueh-Ming Hang, and [Yu-Lun Liu](#)
Picture Coding Symposium, 2013
[Preprints](#)
- arXiv 2023 **Portrait Distortion Correction with Perspective-Aware 3D GANs.**
Zhixiang Wang, [Yu-Lun Liu](#), Jia-Bin Huang, Shin'ichi Satoh, Sizhuo Ma, Guru Krishnan, Jian Wang
arXiv, 2023 [i](#) [paper](#) [i](#) [project](#)

Talks

- Invited Talk **Dynamic and Local Radiance Fields for Robust View Synthesis.**
MediaTek Inc., Hsinchu, Taiwan, May. 2023.
- Invited Talk **Dynamic and Local Radiance Fields for Robust View Synthesis.**
Institute of Communications Engineering, NTHU, Hsinchu, Taiwan, April. 2023.
- Invited Talk **Dynamic and Local Radiance Fields for Robust View Synthesis.**
The 5th Augmented Intelligence and Interaction (AII) Workshop, Taoyuan, Taiwan, March. 2023.
- Guest Lecture **What School and the Workplace Didn't Teach Me.**
NYCU, Hsinchu, Taiwan, March. 2023.
- Invited Talk **Learning to See the Unseen.**
Taichung Municipal Taichung First Senior High School, Taichung, Taiwan, March. 2023.
- Invited Talk **Learning to See the Unseen.**
Research Center for Information Technology Innovation, Academia Sinica, Taipei, Taiwan, January. 2023.
- Invited Talk **Learning to See the Unseen.**
Institute of Information Systems and Applications, NTHU, Hsinchu, Taiwan, November. 2022.

- Guest Lecture **Recent Progress on Video Restoration.**
CommE7005, NTU, Taipei, Taiwan, Mar. 2022.
- Guest Lecture **Rethinking Multimedia and IC Design in the Era of AI.**
CommE7005, NTU, Taipei, Taiwan, Nov. 2021.
- Guest Lecture **CV Final Project - Video Frame Interpolation.**
EEE5053, NTU, Taipei, Taiwan, May. 2021.
- Guest Lecture **Rethinking Multimedia and IC Design in the Era of AI.**
DEE4592, NCTU, Hsinchu, Taiwan, Mar. 2021.
- Invited Talk **Learning to See Through Obstructions.**
2020 CVPR Taiwan Sharing Session, NTU, Taipei, Taiwan, July. 2020.
- Invited Talk **Single-Image HDR Reconstruction by Learning to Reverse the Camera Pipeline.**
2020 CVPR Taiwan Sharing Session, NTU, Taipei, Taiwan, July. 2020.
- Guest Lecture **CV Final Project - Depth Estimation.**
EEE5053, NTU, Taipei, Taiwan, Jan. 2020.
- Invited Talk **Deep Video Frame Interpolation using Cyclic Frame Generation.**
The 3rd Augmented Intelligence and Interaction (AI²) Workshop, Taoyuan, Taiwan, July. 2019.
- Oral **Deep Video Frame Interpolation using Cyclic Frame Generation.**
AAAI, Honolulu, Hawaii, USA, Jan. 2019.
- Guest Lecture **CV Final Project - Depth Estimation.**
EEE5053, NTU, Taipei, Taiwan, Jan. 2019.

Selected Honors and Awards

- Aug. 2023 **Best Ph.D. Thesis Award**, *The Chinese Image Processing and Pattern Recognition Society (IPPR)*.
- Jul. 2023 **Yushan Young Fellow Program**, *Ministry of Education, Republic of China (Taiwan)*.
- Nov. 2013 **Academic Achievement Award**, *Institute of Electronics, NCTU*.
- May. 2013 **Academic Achievement Award**, *Institute of Electronics, NCTU*.

Teaching Experiences

- Spring 2023 **CSIC30107 Video Compression**, *Department of Computer Science, National Yang Ming Chiao Tung University*.
- Spring 2013 **Teaching Assistant of DEE1315 Probability and Statistics with Prof. Hsueh-Ming Hang**, *Department of Electronics Engineering, National Chiao Tung University*.

Academic Services

- Organizer 2020 CVPR Taiwan Sharing Session
- Journal Reviewer IEEE Transactions on Image Processing (**TIP**)
ACM Computing Surveys (**CSUR**)
Applied Soft Computing
Pattern Recognition
ACM Transactions on Graphics (**TOG**)
Information Fusion
IEEE Transactions on Multimedia
International Journal of Computer Vision
Computer Vision and Image Understanding
Computers & Graphics
Multidimensional Systems and Signal Processing
International Journal of Pattern Recognition and Artificial Intelligence

Conference	ACM SIGGRAPH (SIGGRAPH), 2022, 2023
Reviewer	IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2022, 2023 IEEE Conference on Computer Vision (ICCV), 2021, 2023 European Conference on Computer Vision (ECCV), 2020, 2022 British Machine Vision Conference (BMVC), 2023 Asian Conference on Computer Vision (ACCV), 2020, 2022 International Conference on Learning Representations (ICLR), 2022, 2023 Conference on Neural Information Processing Systems (NeurIPS), 2022, 2023 International Conference on Machine Learning (ICML), 2023 AAAI Conference on Artificial Intelligence (AAAI), 2021, 2022, 2023 International Joint Conference on Artificial Intelligence (IJCAI), 2021, 2022, 2023 ACM International Conference on Multimedia (MM), 2018 IEEE International Conference on Multimedia and Expo Workshops (ICMEW), 2023
Research Mentor	Research Mentor for interns at MediaTek Inc., 2019, 2020, 2021, 2022.
Professional Societies	IEEE student member AAAI student member

Technical Skills

Programming	C/C++, Python
Toolbox / Software	MATLAB, OpenCV, PyTorch, TensorFlow

References

Ph.D. Advisor	Yung-Yu Chuang , <i>Professor of Department of Computer Science and Information Engineering</i> , National Taiwan University. ✉ cyy@csie.ntu.edu.tw 🌐 homepage
M.S. Advisor	Hsueh-Ming Hang , <i>Professor of Department of Electronics Engineering</i> , National Chiao Tung University. ✉ hmhang@mail.nctu.edu.tw 🌐 homepage
Director	Johannes Kopf , <i>Director of the Computational Photography Group</i> , Meta. ✉ johannes.peter.kopf@gmail.com
Director	Shaw-Min Lei , <i>Director of the Multimedia Technology Development Division</i> , MediaTek Inc. ✉ shawmin.lei@mediatek.com
Manager of Department	Yu-Lin Chang , <i>Manager of the Intelligent Vision Processing Department</i> , MediaTek Inc. ✉ yulinchang@google.com
Manager of Department	Chia-Ping Chen , <i>Manager of the Intelligent Vision Processing Department</i> , MediaTek Inc. ✉ chiaping.chen@mediatek.com
Research Mentor	Ming-Hsuan Yang , <i>Professor of Electrical Engineering and Computer Science</i> , University of California at Merced. ✉ mhyang@ucmerced.edu 🌐 homepage
Research Mentor	Jia-Bin Huang , <i>Associate Professor of Department of Computer Science</i> , University of Maryland, College Park. ✉ jbh Huang@umd.edu 🌐 homepage
Research Mentor	Yen-Yu Lin , <i>Professor of Department of Computer Science</i> , National Yang Ming Chiao Tung University. ✉ lin@cs.nctu.edu.tw 🌐 homepage
Research Mentor	Wei-Sheng Lai , <i>Software Engineer</i> , Google. ✉ wlai24@ucmerced.edu 🌐 homepage
Research Mentor	Changil Kim , <i>Research Scientist</i> , Meta. ✉ changil@csail.mit.edu 🌐 homepage
Research Mentor	Hung-Yu Tseng , <i>Research Scientist</i> , Meta. ✉ hytseng0509@gmail.com 🌐 homepage

Research Mentor **Chen Gao**, *Research Scientist*, Meta.
✉ gaochen@meta.com [🌐 homepage](#)