

# Wei-Chen Chiu 邱維辰

<https://walonchiu.github.io/>

## Education

- 2011–2016 **Doctor of Engineering**, *Max Planck Institute for Informatics*, Germany.  
Department of Computer Vision and Multimodal Computing
- 2008–2009 **Master of Science**, *National Chiao Tung University*, Taiwan.  
Institute of Multimedia Engineering, College of Computer Science
- 2004–2008 **Bachelor of Science**, *National Chiao Tung University*, Taiwan.  
Electrical Engineering & Computer Science Undergraduate Honors Program

## Honor and Distinctions

- 2023 **Early-Career Investigator Research Achievement Award**  
Academia Sinica, Taiwan
- 2022 **Young Scholars' Creativity Award**  
Foundation for the Advancement of Outstanding Scholarship, Taiwan
- 2022 **K. T. Li Young Researcher Award**  
Institute of Information and Computing Machinery, Taiwan
- 2021 **CIEE Outstanding Young Electrical Engineer Award**  
The Chinese Institute of Electrical Engineering (CIEE), Taiwan
- 2021 **NCTU EECS Outstanding Young Scholar Award**  
National Chiao Tung University, Taiwan

## Academic and Working Experiences

- 02.2024 – present **Full Professor**, *National Yang Ming Chiao Tung University*, Taiwan.  
Department of Computer Science
- 11.2022 – present **Scientific Advisor**, *ASUS Intelligent Cloud Services (AICS)*, Taiwan.
- 05.2021 – present **Research Fellow**, *Industrial Technology Research Institute (ITRI)*, Taiwan.  
Mechanical and Mechatronics Systems Laboratory
- 08.2020 – 01.2024 **Associate Professor**, *National Chiao Tung University*, Taiwan.  
Department of Computer Science
- 04.2019 – 09.2019 **Consultant**, *Viscovery Pte. Ltd.*, Taiwan.
- 08.2017 – 07.2020 **Assistant Professor**, *National Chiao Tung University*, Taiwan.  
Department of Computer Science
- 02.2017 – 07.2017 **Postdoctoral Researcher**, *Academia Sinica*, Taiwan.  
Research Center for Information Technology Innovation (CITI)
- 08.2016 – 01.2017 **Computer Vision Research Scientist**, *Viscovery Pte. Ltd.*, Taiwan.

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## Academic Services

- Organizer Industrial Liaison, the 16th IEEE International Conference on Advanced Video and Signal-based Surveillance (AVSS), 2019  
Doctor Symposium Chair, ACM International Conference on Multimedia in Asia (ACM MM Asia), 2020
- Area Chair the 16th IEEE International Conference on Advanced Video and Signal-based Surveillance (AVSS), 2019  
the 18th International Conference on Machine Vision Applications (MVA), 2023  
the 34th British Machine Vision Conference (BMVC), 2023  
the 37th AAAI Conference on Artificial Intelligence (AAAI), 2023  
the 38th AAAI Conference on Artificial Intelligence (AAAI), 2024

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## Publications since Having Professorship ([↗ Google Scholar profile](#))

### International Journal Papers

- Fu-En Wang, Yu-Hsuan Yeh, Yi-Hsuan Tsai, **Wei-Chen Chiu**, and Min Sun, "BiFuse++: Self-supervised and Efficient Bi-projection Fusion for 360 Depth Estimation," *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, 2022.
- Yu-Ying Yeh, Yeng-Cheng Liu, **Wei-Chen Chiu**, and Yu-Chiang Frank Wang, "Static2Dynamic: Video Inference from a Deep Glimpse," *IEEE Transactions on Emerging Topics in Computational Intelligence (TETCI)*, 2020.

### International Conference Papers

1. Bor-Shiun Wang, Chien-Yi Wang, and **Wei-Chen Chiu**, "MCPNet: An Interpretable Classifier via Multi-Level Concept Prototypes," in *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
2. Bo-Yu Cheng, **Wei-Chen Chiu**, and Yu-Lun Liu, "Improving Robustness for Joint Optimization of Camera Pose and Decomposed Low-Rank Tensorial Radiance Fields," in *The Thirty-Eighth AAAI Conference on Artificial Intelligence (AAAI)*, 2024.
3. Shao-Yu Weng, Hsuan Yuan, Yu-Syuan Xu, Ching-Chun Huang, and **Wei-Chen Chiu**, "Best of Both Worlds: Learning Arbitrary-scale Blind Super-Resolution via Dual Degradation Representations and Cycle-Consistency," in *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2024.
4. Zhi-Yi Chin, Chieh-Ming Jiang, Ching-Chun Huang, Pin-Yu Chen, and **Wei-Chen Chiu**, "Masking Improves Contrastive Self-Supervised Learning for ConvNets, and Saliency Tells You Where," in *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2024.
5. Chia-Hao Kao, Ying-Chieh Weng, Yi-Hsin Chen, **Wei-Chen Chiu**, and Wen-Hsiao Peng, "Transformer-based Variable-rate Image Compression with Region-of-interest Control," in *IEEE International Conference on Image Processing (ICIP)*, 2023.
6. Yi-Hsin Chen, Ying-Chieh Weng, Chia Hao Kao, Cheng Chien, **Wei-Chen Chiu**, and Wen-Hsiao Peng, "TransTIC: Transferring Transformer-based Image Compression from Human Visualization to Machine Perception," in *IEEE International Conference on Computer Vision (ICCV)*, 2023.
7. Hsin-Ju Lin, Tsu-Chun Chung, Ching-Chun Hsiao, Pin-Yu Chen, **Wei-Chen Chiu**, and Ching-Chun Huang, "MENTOR: Multilingual tExt detection N TOWard leaRning by Analogy," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2023.
8. Sheng-Feng Yu and **Wei-Chen Chiu**, "Mitigating Forgetting in Continual Learning Via Contrasting Semantically Distinct Augmentations," in *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, 2023.
9. Yi-Hsin Chen, Dian-Shan Chen, Ying-Chieh Weng, Wen-Hsiao Peng, and **Wei-Chen Chiu**, "Continually-

- Adapted Margin and Multi-Anchor Distillation for Class-Incremental Learning," in *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, 2023.
10. Yi-Lun Lee, Dian-Shan Chen, Chen-Yu Lee, Yi-Hsuan Tsai, and **Wei-Chen Chiu**, "Data Efficient Incremental Learning Via Attentive Knowledge Replay," in *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, 2023.
  11. Yi-Lun Lee, Yi-Hsuan Tsai, **Wei-Chen Chiu**, and Chen-Yu Lee, "Multimodal Prompting with Missing Modalities for Visual Recognition," in *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
  12. Chun-Yi Li, Yen-Yu Lin, and **Wei-Chen Chiu**, "Decontamination Transformer for Blind Image Inpainting," in *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2023.
  13. Yu-Chun Chen, Yu-Jen Lee, Kuei-Chun Kao, Jie Tsai, En-Chi Liang, **Wei-Chen Chiu**, Faye Shih, and Yung-Ju Chang, "Are You Killing Time? Predicting Smartphone Users' Time-killing Moments via Fusion of Smartphone Sensor Data and Screenshots," in *ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)*, 2023.
  14. Wen-Cheng Chen, Chu-Song Chen, **Wei-Chen Chiu**, and Min-Chun Hu, "Scalable Spatial Memory for Scene Rendering And Navigation," in *The Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI)*, 2023.
  15. Shin-I Cheng, Yu-Jie Chen, **Wei-Chen Chiu**, Hung-Yu Tseng, and Hsin-Ying Lee, "Adaptively-Realistic Image Generation from Stroke and Sketch with Diffusion Model," in *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2023.
  16. Yu-Hsuan Li, Tzu-Yin Chao, Ching-Chun Huang, Pin-Yu Chen, and **Wei-Chen Chiu**, "Make an Omelette with Breaking Eggs: Zero-Shot Learning for Novel Attribute Synthesis," in *Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2022.
  17. Yu-Ting Yen, Chia-Ni Lu, **Wei-Chen Chiu**, and Yi-Hsuan Tsai, "3D-PL: Domain Adaptive Depth Estimation with 3D-aware Pseudo-Labeling," in *European Conference on Computer Vision (ECCV)*, 2022.
  18. Yu-Jie Chen, Shin-I Cheng, **Wei-Chen Chiu**, Hung-Yu Tseng, and Hsin-Ying Lee, "Vector Quantized Image-to-Image Translation," in *European Conference on Computer Vision (ECCV)*, 2022.
  19. Wei-Jan Ko, Chen-Yi Chiu, Yu-Liang Kuo, and **Wei-Chen Chiu**, "RPG: Learning Recursive Point Cloud Generation," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2022.
  20. Yu-Liang Kuo, Wei-Jan Ko, Chen-Yi Chiu, and **Wei-Chen Chiu**, "Improving Single-View Mesh Reconstruction for Unseen Categories via Primitive-Based Representation and Mesh Augmentation," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2022.
  21. Meng-Shiun Tsai, Pei-Ze Chiang, Yi-Hsuan Tsai, and **Wei-Chen Chiu**, "Self-Supervised Feature Learning from Partial Point Clouds via Pose Disentanglement," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2022.
  22. Ting-Wei Chang, **Wei-Chen Chiu**, and Ching-Chun Huang, "Find the Way Back: Invertible Kernel Estimator for Blind Image Super-Resolution," in *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2022.
  23. Chia-Hsiang Kao, **Wei-Chen Chiu**, and Pin-Yu Chen, "MAML is a Noisy Contrastive Learner in Classification," in *International Conference on Learning Representations (ICLR)*, 2022.
  24. Pei-Ze Chiang, Meng-Shiun Tsai, Hung-Yu Tseng, Wei-Sheng Lai, and **Wei-Chen Chiu**, "Stylizing 3D Scene via Implicit Representation and HyperNetwork," in *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2022.
  25. Yi-Lun Lee, Yen-Chung Chen, Min-Yuan Tseng, Yi-Hsuan Tsai, and **Wei-Chen Chiu**, "Learning to Hide Residual for Boosting Image Compression," in *British Machine Vision Conference (BMVC)*, 2021.
  26. Jia-Ren Chang, Yong-Sheng Chen, and **Wei-Chen Chiu**, "Learning Facial Representations from the Cycle-consistency of Face," in *International Conference on Computer Vision (ICCV)*, 2021.
  27. Zunzhi You, Yi-Hsuan Tsai, **Wei-Chen Chiu**, and Guanbin Li, "Towards Interpretable Deep Networks for

- Monocular Depth Estimation," in *International Conference on Computer Vision (ICCV)*, 2021.
28. Yu-Ting Yen, Chia-Chi Cheng, and **Wei-Chen Chiu**, "Inverse Halftone Colorization: Making Halftone Prints Color Photos," in *IEEE International Conference on Image Processing (ICIP)*, 2021.
  29. Chia-Hsiang Kao, Yong-Sheng Chen, Li-Fen Chen, and **Wei-Chen Chiu**, "Demystifying T1-MRI to FDG<sup>18</sup>-PET Image Translation via Representational Similarity," in *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2021.
  30. Chiu-Chou Lin, **Wei-Chen Chiu**, and I-Chen Wu, "An Unsupervised Video Game Playstyle Metric via State Discretization," in *37th Conference on Uncertainty in Artificial Intelligence (UAI)*, 2021.
  31. Sheng-Feng Yu and **Wei-Chen Chiu**, "Boosting Semi-Supervised Anomaly Detection via Contrasting Synthetic Images," in *International Conference on Machine Vision Applications (MVA)*, 2021. (**Best Paper Award**)
  32. Chia-Ni Lu, Ya-Chu Chang, and **Wei-Chen Chiu**, "Bridging the Visual Gap: Wide-Range Image Blending," in *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.
  33. Fu-En Wang, Yu-Hsuan Yeh, Min Sun, **Wei-Chen Chiu**, and Yi-Hsuan Tsai, "LED<sup>2</sup>-Net: Monocular 360 Layout Estimation via Differentiable Depth Rendering," in *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.
  34. Bolivar Solarte, Chin-Hsuan Wu, Kuan-Wei Lu, Yi-Hsuan Tsai, **Wei-Chen Chiu**, and Min Sun, "Robust 360-8PA: Redesigning The Normalized 8-point Algorithm for 360-FoV Images," in *IEEE International Conference on Robotics and Automation (ICRA)*, 2021.
  35. Chun-Chih Teng, Pin-Yu Chen, and **Wei-Chen Chiu**, "Domain Adaptation for Learning Generator from Paired Few-Shot Data," in *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2021.
  36. Min-Yuan Tseng, Yen-Chung Chen, Yi-Lun Lee, Wei-Sheng Lai, Yi-Hsuan Tsai, and **Wei-Chen Chiu**, "Dual-Stream Fusion Network for Spatiotemporal Video Super-Resolution," in *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2021.
  37. Ya-Chu Chang, Chia-Ni Lu, Chia-Chi Cheng, and **Wei-Chen Chiu**, "Single Image Reflection Removal with Edge Guidance, Reflection Classifier, and Recurrent Decomposition," in *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2021.
  38. Tsai-Jyun Fan, Chien-Yu Lu, **Wei-Chen Chiu**, Li Su, and Che-Rung Lee, "Timbre-enhanced Multi-modal Music Style Transfer with Domain Balance Loss," in *International Conference on Technologies and Applications of Artificial Intelligence (TAAI)*, 2020. (**Best Paper Award**)
  39. Cheng-Hsun Lei, Yi-Hsin Chen, Wen-Hsiao Peng, and **Wei-Chen Chiu**, "Class-incremental Learning with Rectified Feature-Graph Preservation," in *Asian Conference on Computer Vision (ACCV)*, 2020.
  40. Yen-Chung Chen, Keng-Jui Chang, Yi-Hsuan Tsai, and **Wei-Chen Chiu**, "Boosting Image and Video Compression via Learning Latent Residual Patterns," in *British Machine Vision Conference (BMVC)*, 2020.
  41. Chung-Sheng Lai, Zunzhi You, Ching-Chun Huang, Yi-Hsuan Tsai, and **Wei-Chen Chiu**, "Colorization of Depth Map via Disentanglement," in *European Conference on Computer Vision (ECCV)*, 2020.
  42. Hsuan-Kai Kai, Cheng-Che Lee, and **Wei-Chen Chiu**, "Learning Low-Shot Generative Networks for Cross-Domain Data," in *International Conference on Pattern Recognition (ICPR)*, 2020.
  43. Mian-Jhong Chiu, **Wei-Chen Chiu**, Hua-Tsung Chen, and Jen-Hui Chuang, "Real-time Monocular Depth Estimation with Extremely Light-Weight Neural Network," in *International Conference on Pattern Recognition (ICPR)*, 2020.
  44. You-Feng Wu, Vu-Hoang Tran, Ting-Wei Chang, **Wei-Chen Chiu**, and Ching-Chun Huang, "DEN: Disentangling and Exchanging Network for Depth Completion," in *International Conference on Pattern Recognition (ICPR)*, 2020.
  45. Chia-Chi Cheng, Hung-Yu Chen, and **Wei-Chen Chiu**, "Time Flies: Animating a Still Image with Time-Lapse Video as Reference," in *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*,

2020.

46. Fu-En Wang, Yu-Hsuan Yeh, Min Sun, **Wei-Chen Chiu**, and Yi-Hsuan Tsai, "BiFuse: Monocular 360 Depth Estimation via Bi-projection Fusion," in *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.
47. Yi-Lun Lee, Min-Yuan Tseng, Yu-Cheng Luo, Dung-Ru Yu, and **Wei-Chen Chiu**, "Learning Face Recognition Unsupervisedly by Disentanglement and Self-Augmentation," in *IEEE International Conference on Robotics and Automation (ICRA)*, 2020.
48. Ning-Hsu Wang, Bolivar Solarte, Yi-Hsuan Tsai, **Wei-Chen Chiu**, and Min Sun, "360SD-Net: 360° Stereo Depth Estimation with Learnable Cost Volume," in *IEEE International Conference on Robotics and Automation (ICRA)*, 2020.
49. Hung-Yu Chen, I-Sheng Fang, Chia-Ming Cheng, and **Wei-Chen Chiu**, "Self-Contained Stylization via Steganography for Reverse and Serial Style Transfer," in *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2020.
50. Tsun-Hsuan Wang, Hou-Ning Hu, Chieh Hubert Lin, Yi-Hsuan Tsai, **Wei-Chen Chiu**, and Min Sun, "3D LiDAR and Stereo Fusion using Stereo Matching Network with Conditional Cost Volume Normalization," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2019.
51. Yen-Chung Chen, Keng-Jui Chang, Yu-Chiang Frank Wang, Yi-Hsuan Tsai, and **Wei-Chen Chiu**, "Guide Your Eyes: Learning Image Manipulation under Saliency Guidance," in *30th British Machine Vision Conference (BMVC)*, 2019.
52. Hsueh-Ying Lai, Yi-Hsuan Tsai, and **Wei-Chen Chiu**, "Bridging Stereo Matching and Optical Flow via Spatiotemporal Correspondence," in *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.
53. Wei-Lun Chang, Hui-Po Wang, Wen-Hsiao Peng, and **Wei-Chen Chiu**, "All about Structure: Adapting Structural Information across Domains for Boosting Semantic Segmentation," in *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.
54. Yen-Chung Chen, Keng-Jui Chang, Yi-Hsuan Tsai, and **Wei-Chen Chiu**, "Learning Patterns of Latent Residual for Improving Video Compression," in *Workshop and Challenge on Learned Image Compression (CLIC) in conjunction with IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.
55. Yi-Lun Liao, Yao-Cheng Yang, Yuan-Fang Lin, Pin-Jung Chen, Chia-Wen Kuo, **Wei-Chen Chiu**, and Yu-Chiang Frank Wang, "Learning Pose-Aware 3D Reconstruction via 2D-3D Self-Consistency," in *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2019.
56. Tsun-Hsuan Wang, Fu-En Wang, Juan-Ting Lin, Yi-Hsuan Tsai, **Wei-Chen Chiu**, and Min Sun, "Plug-and-Play: Improve Depth Prediction via Sparse Data Propagation," in *IEEE International Conference on Robotics and Automation (ICRA)*, 2019.
57. Hsuan-I Ho, **Wei-Chen Chiu**, and Yu-Chiang Frank Wang, "Summarizing First-Person Videos from Third Persons' Points of View," in *European Conference on Computer Vision (ECCV)*, 2018.
58. Yen-Cheng Liu, Yu-Ying Yeh, Tzu-Chien Fu, Sheng-De Wang, **Wei-Chen Chiu**, and Yu-Chiang Frank Wang, "Detach and Adapt: Learning Cross-Domain Disentangled Deep Representation," in *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018.
59. Tzu-Chien Fu, **Wei-Chen Chiu**, and Yu-Chiang Frank Wang, "Learning Guided Convolutional Neural Networks For Cross-Resolution Face Recognition," in *IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, 2017.
60. Yen-Cheng Liu, **Wei-Chen Chiu**, Sheng-De Wang, and Yu-Chiang Frank Wang, "Domain-Adaptive Generative Adversarial Networks For Sketch-To-Photo Inversion," in *IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, 2017.

(Please kindly refer to <https://walonchiu.github.io/> for full publication list.)