

Fu-En Yang

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Research Interests












○ **Artificial Intelligence** ○ **Deep learning** ○ **Computer Vision**.

My research interests lie in deep learning and computer vision, such as representation learning, transfer learning, open-vocabulary learning, foundation models, parameter-efficient fine-tuning, multimodal learning, and embodied visual understanding/reasoning & active agents.

Education

- Aug. 2018 - **Ph.D.**, National Taiwan University (NTU), Taipei, Taiwan.
Jul. 2023 Graduate Institute of Communication Engineering (GICE)
Vision and Learning Laboratory 
Advisor: Prof. Yu-Chiang Frank Wang  [link](#)
NTU Presidential Award for Graduate Students  [link](#)
- Sept. 2014 - **Bachelor of Science**, National Taiwan University (NTU), Taipei, Taiwan.
Aug. 2018 Department of Electrical Engineering (EE)
○ Overall GPA: 4.12/4.3
○ Ranking: 26/184

Research & Industrial Experiences

- Feb. 2023 - **Research Intern**, NVIDIA Research  [link](#).
Aug. 2023 Manager: Prof. Yu-Chiang Frank Wang  [link](#)
○ Parameter-efficient model personalization in federated learning (ICCV-2023).
○ Vision-language models for open-vocabulary and language-driven visual analysis
- Sept. 2018 - **Ph.D. Researcher**, Vision and Learning Laboratory  , NTU, Taipei, Taiwan.
Jul. 2023 Advisor: Prof. Yu-Chiang Frank Wang  [link](#)
1. Style Transfer & Domain Adaptation
○ Published as a journal paper in the IEEE Transactions on Image Processing (TIP)  .
2. Video Generation and Translation
○ Accepted as conference papers in CVPR-2020  & ICPR-2020 
3. Few-Shot & Zero-Shot Learning
○ Accepted as conference papers in IJCV-2023  , WACV-2022  , & ICIP-2021 
4. Domain Generalization
○ Accepted as a conference paper in NeurIPS-2021 as spotlight presentation (top 3%) 
5. Federated Learning
○ Accepted as a conference paper in ICCV-2023
- Sept. 2020 - **AICS PhD Program**, ASUS Intelligent Cloud Services (AICS)  [link](#).
Oct. 2022 Student Researcher for computer vision and medical imaging applications mentored by Prof. Yu-Chiang Frank Wang  [link](#) and Prof. Stefan Winkler  [link](#)
○ Cross-Domain Medical Image Analysis  [Paper](#)
○ Privacy-Preserving Medical Image Analysis

Publications

- ICCV 2023 **Efficient Model Personalization in Federated Learning via Client-Specific Prompt Generation.**
Fu-En Yang, Chien-Yi Wang, and Yu-Chiang Frank Wang
IEEE International Conference on Computer Vision (ICCV), October 2023

- IJCV 2023 **Semantics-Guided Intra-Category Knowledge Transfer for Generalized Zero-Shot Learning.**
Fu-En Yang, Yuan-Hao Lee, Chia-Ching Lin, and Yu-Chiang Frank Wang
International Journal of Computer Vision (IJCV), 2023 [i](#) [Paper](#)
- WACV 2023 **Self-Supervised Pyramid Representation Learning for Multi-Label Visual Analysis and Beyond.**
Cheng-Yen Hsieh, Chih-Jung Chang, [Fu-En Yang](#), and Yu-Chiang Frank Wang
IEEE Winter Conference on Applications of Computer Vision (WACV), Jan 2023 [i](#) [Paper](#)
- WACV 2022 **A Pixel-Level Meta-Learner for Weakly Supervised Few-Shot Semantic Segmentation.**
Yuan-Hao Lee, [Fu-En Yang](#), and Yu-Chiang Frank Wang
IEEE Winter Conference on Applications of Computer Vision (WACV), Jan 2022 [i](#) [Paper](#)
- NeurIPS 2021 **Adversarial Teacher-Student Representation Learning for Domain Generalization.**
Fu-En Yang, Yuan-Chia Cheng, Zu-Yun Shiao, and Yu-Chiang Frank Wang
Conference on Neural Information Processing Systems (NeurIPS), December 2021 [i](#) [Paper](#)
(top 3% for spotlight presentation)
- CVPR 2021 **LayoutTransformer: Scene Layout Generation with Conceptual and Spatial Diversity.**
Cheng-Fu Yang, Wan-Cyuan Fan, [Fu-En Yang](#), and Yu-Chiang Frank Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), June 2021 [i](#) [Paper](#)
- ICIP 2021 **Few-Shot Classification in Unseen Domains by Episodic Meta-Learning Across Visual Domains.**
Yuan-Chia Cheng, Ci-Siang Lin, [Fu-En Yang](#), and Yu-Chiang Frank Wang
IEEE International Conference on Image Processing (ICIP), September 2021 [i](#) [Paper](#)
- CVPR 2020 **Learning Identity-Invariant Motion Representations for Cross-ID Face Reenactment.**
Po-Hsiang Huang, Fu-En Yang, and Yu-Chiang Frank Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), June 2020 [i](#) [Paper](#)
- ICPR 2020 **Dual-MTGAN: Stochastic and Deterministic Motion Transfer for Image-to-Video Synthesis.**
[Fu-En Yang*](#), Jing-Cheng Chang*, Yuan-Hao Lee, and Yu-Chiang Frank Wang
(* indicates equal contribution)
IEEE International Conference on Pattern Recognition (ICPR), Jan 2021 [i](#) [Paper](#)
- ICPR 2020 **Semantics-Guided Representation Learning with Applications to Visual Synthesis.**
Jia-Wei Yan, Ci-Siang Lin, [Fu-En Yang](#), Yu-Jhe Li, and Yu-Chiang Frank Wang
IEEE International Conference on Pattern Recognition (ICPR), Jan 2021 [i](#) [Paper](#)
- TIP 2020 **A Multi-domain and Multi-modal Representation Disentangler for Cross-Domain Image Manipulation and Classification.**
[Fu-En Yang*](#), Jing-Cheng Chang*, Chung-Chi Tsai, and Yu-Chiang Frank Wang
(* indicates equal contribution)
IEEE Transactions on Image Processing (TIP), 2020 [i](#) [Paper](#)

ICIP 2019 **Learning Hierarchical Self-Attention for Video Summarization.**
Yen-Ting Liu, Yu-Jhe Li, Fu-En Yang, Shang-Fu Chen, and Yu-Chiang Frank Wang
IEEE International Conference on Image Processing (ICIP), September 2019 [i](#) [Paper](#)

CVPRW 2018 **Adaptation and Re-Identification Network: An Unsupervised Deep Transfer Learning Approach to Person Re-Identification.**
Yu-Jhe Li, Fu-En Yang, Yen-Cheng Liu, Yu-Yin Yeh, Xiaofei Du, and Yu-Chiang Frank Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) workshop, June 2018
[i](#) [Paper](#)

Academic Services

NeurIPS **Conference Reviewer.**
Conference on Neural Information Processing Systems (NeurIPS) 2023

CVPR **Conference Reviewer.**
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2024, 2023, 2022

ICCV **Conference Reviewer.**
International Conference on Computer Vision (ICCV) 2023

AAAI **Conference Reviewer.**
AAAI Conference on Artificial Intelligence (AAAI) 2024, 2023, 2022, 2021, 2020

WACV **Conference Reviewer.**
Winter Conference on Applications of Computer Vision (WACV) 2023, 2022

ACCV **Conference Reviewer.**
Asian Conference on Computer Vision (ACCV) 2022

ICIP **Conference Reviewer.**
IEEE International Conference on Image Processing (ICIP) 2023, 2020

Spring 2019 **Teaching Assistant**, NTU GICE, Taipei Taiwan.
Deep Learning for Computer Vision

- o Instructor: Prof. Yu-Chiang Frank Wang
- o Designed, checked and scored homework assignments.
- o Designed the final project.

Awards

Nov. 2023 Honorable Mention at 2023 TAAI Ph.D. Thesis Award
Sep. 2023 NTU Presidential Award for Graduate Students
Aug. 2023 16th IPPR Best Doctoral Thesis Award

Skills

Programming Python, C++, Matlab, \LaTeX
Libraries/Tools PyTorch, Tensorflow, Keras, OpenCV
Language Chinese (native), English