

# Fu-En Yang

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## Research Interests


















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

My research interests lie in multimodal AI, such as transfer learning, large vision-language models (LVLMs), multimodal understanding & reasoning, video modeling, and VLM 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. 2024 - **Research Scientist**, NVIDIA Research  [link](#).  
Present Manager: Prof. Yu-Chiang Frank Wang  [link](#)  
○ Multimodal Learning and Vision-Language Models
- 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

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## Publications

- ICLR 2024 **RAPPER: Reinforced Rationale-Prompted Paradigm for Natural Language Explanation in Visual Question Answering.**  
Kai-Po Chang, Chi-Pin Huang, Wei-Yuan Cheng, Fu-En Yang, Chien-Yi Wang, Yung-Hsuan Lai, and Yu-Chiang Frank Wang  
International Conference on Learning Representations (ICLR), May 2024 [i](#) [Paper](#)
- AAAI 2024 **Language-Guided Transformer for Federated Multi-Label Classification.**  
I-Jieh Liu, Ci-Siang Lin, Fu-En Yang, and Yu-Chiang Frank Wang  
Thirty-Eighth AAAI Conference on Artificial Intelligence (AAAI), February 2024 [i](#) [Paper](#)
- 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 [i](#) [Paper](#)
- 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.**  
Spotlight  
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](#)

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## Academic Services

- NeurIPS **Conference Reviewer.**  
Conference on Neural Information Processing Systems (NeurIPS) 2024, 2023
- CVPR **Conference Reviewer.**  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2024, 2023, 2022
- ICML **Conference Reviewer.**  
International Conference on Machine Learning (ICML) 2024
- ECCV **Conference Reviewer.**  
European Conference on Computer Vision (ECCV) 2024
- 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) 2024, 2022
- ICIP **Conference Reviewer.**  
IEEE International Conference on Image Processing (ICIP) 2024, 2023, 2020
- CVIU **Journal Reviewer.**  
Computer Vision and Image Understanding

Spring 2019 **Teaching Assistant**, NTU GICE, Taipei Taiwan.

Deep Learning for Computer Vision

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

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## 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

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## Skills

Programming Python, C++, Matlab,  $\text{\LaTeX}$

Libraries/Tools PyTorch, Tensorflow, Keras, OpenCV

Language Chinese (native), English