

Wan-Cyuan (Chris) Fan



Personal website

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Education

- Jan. 2022 📖 **Masters of Science**, National Taiwan University (NTU), Taiwan
Data Science and Intelligent Networking, Grad. Institute of Communication Engineering
GPA: 4.11 / 4.3 | **Thesis**: cManiGAN [2], **IPPR 2022 Honorable Master Thesis Award**
Advisor: Prof. Yu-Chiang Frank Wang [🔗 link](#)
- Sep. 2020 📖 **Bachelor of Science**, National Taiwan University, Taiwan
Department of Electrical Engineering
GPA: 3.98 / 4.3 | **Undergraduate thesis**: LayoutTransformer [8], **CVPR 2021**
Advisor: Prof. Yu-Chiang Frank Wang [🔗 link](#)


Work Experience

- Sep. 2022 – Present 📖 **Research Assistant** in Vision and Learning Lab (VLL) at NTU
advised by Prof. Yu-Chiang Frank Wang
- Building cManiGAN [2] for weakly supervised text guided image manipulation, collaborating with Dr. Yun-hsuan Sung and Da-Cheng Juan, Google Research
- Proposing LayoutTransformer [8] for scene layout generation with spatial and conceptual diversity, **SOTA** on COCO and Visual Genome
- Mar. 2022 – Present 📖 **Research Intern** in Azure Computer Vision Research at Microsoft
- Working with Yen-Chun Chen, DongDong Chen, Yu Cheng, and Lu Yuan
- Proposing Frido [1], a multi-scale diffusion model for conditional complex scene image generation, achieving **SOTA** on 4 benchmarks
- class 2020 and 2021 📖 **Teaching Assistant** of Deep Learning for Computer Vision, NTU
- The most popular DL course for graduate students (**150+** students each semester)
- Hosting project seminars for more than **150** students and multiple industry sponsors
- July 2019 – Aug. 2020 📖 **Research Assistant** in Institute of Information Science, Academia Sinica, Taiwan, advised by Prof. Tyng-Luh Liu
- Proposing MEC [3] for the long-tailed object detection and instance segmentation, achieving world ranking **7th** in LVIS challenge, ECCV'20
- Exploring the adaptive batch-wise regularization [4] for image classification under long-tailed and fine-grained distribution
- July 2017 - Jan. 2018 📖 **UI/UX Design Intern** in Digital Learning Center, NTU





Publications

Pre-prints (Google Scholar profile)



1. **Wan-Cyuan Fan**, Yen-Chun Chen, Dong Dong Chen, Yu Cheng, Lu Yuan, Yu-Chiang Frank Wang. "Frido: Feature Pyramid Diffusion for Complex Scene Image Synthesis." Arxiv, 2022. (paper)

2. **Wan-Cyuan Fan**, Cheng-Fu Yang, Chiao-An Yang, Yu-Chiang Frank Wang. "Target-free Text-guided Image Manipulation." In submission, 2022.
3. **Wan-Cyuan Fan**, Cheng-Yao Hong, Yen-Chi Hsu, Tyng-Luh Liu. "IOU-Aware Multi-Expert Cascade Network via Dynamic Ensemble for Long-tailed Object Detection." In submission, 2022.
4. Yen-Chi Hsu, Cheng-Yao Hong, **Wan-Cyuan Fan**, Ming-Sui Lee, Davi Geiger, Tyng-Luh Liu. "ACE: Adaptive Confusion Energy for Natural World Data Distribution." Arxiv, 2019. ( paper)

Conference Papers (Google Scholar profile)

5. Cheng-Fu Yang, Yao-Hung Hubert Tsai, **Wan-Cyuan Fan**, Yu-Chiang Frank Wang, Louis-Philippe Morency, Ruslan Salakhutdinov. "Paraphrasing Is All You Need for Novel Object Captioning." In Proceedings of the Conference on Neural Information Processing Systems (NeurIPS), 2022. ( paper)
6. Chiao-An Yang, Cheng-Yo Tan, **Wan-Cyuan Fan**, Cheng-Fu Yang, Meng-Lin Wu, Yu-Chiang Frank Wang. "Scene Graph Expansion for Semantics-Guided Image Outpainting." In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2022. ( paper)
7. Chih-Chun Yang, **Wan-Cyuan Fan**, Cheng-Fu Yang, Yu-Chiang Frank Wang. "Cross-Modal Mutual Learning for Audio-Visual Speech Recognition and Manipulation." In Proceedings of Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI), 2022. ( paper)
8. Cheng-Fu Yang*, **Wan-Cyuan Fan***, Fu-En Yang, Yu-Chiang Frank Wang. "LayoutTransformer: Scene Layout Generation With Conceptual and Spatial Diversity." In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2021. ( paper)

Workshop (Google Scholar profile)


9. **Wan-Cyuan Fan**, Cheng-Yao Hong, Yen-Chi Hsu, Tyng-Luh Liu. "Multi-expert heads of Long-tailed Instance Segmentation." Tech. Report of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (ECCV) workshop, 2020. ( paper)
10. **Wan-Cyuan Fan**. "Auto-drawer: Generating and Modifying Images Continually by Visual-Relational Knowledge Graph." Pre-print, 2019. ( paper)

Awards and Volunteer Experience


Awards and Achievements

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| 2022 |  Honorable Master Thesis Award , The Chinese Image Processing and Pattern Recognition Society, Taiwan. (only 11 students in Taiwan)  |
| 2021 |  Master Student Research Scholarship , Novatek Foundation, Taiwan. (only 3 students in NTU EECS)  |
| 2020 |  Top 10 Winner (World Ranking 7th), Large Vocabulary Instance Segmentation Challenge, ECCV workshop. (Top 1 in the non-industrial teams)  |
| 2018 |  Third prize , the Contest of Innovation and Entrepreneurship of Biotechnology of Ministry of Education, Taiwan.   |

Position of Responsibility

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| 2016-2017 |  Vice leader of Public Relations Department in the Aboriginal Service Club at NTU
- Teaching elementary students with science in Taitung for 1 month each year |
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Professional Activity

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| 2020-2022 |  Conference Reviewer . NeurIPS'22, AAAI'22, CVPR'21, ICCV'21, AAAI'21, and CVPR'20 |
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