Wan-Cyuan (Chris) Fan

🌐 Personal website   🔍 Google scholar   ⓖ GitHub   ✉ wancyuan@cs.ubc.ca

Education

Sep. 2023 - Present

🔖 **Doctor of Philosophy**, University of British Columbia, Canada
Department of Computer Science. UBC 4YF Fellowship Award
Advisor: Prof. Leonid Sigal   🔗 link

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 [7] , 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 [11], CVPR 2021
Advisor: Prof. Yu-Chiang Frank Wang   🔗 link

Research and Work Experience

Mar. 2024 – July. 2024

🔖 **Research Intern**, GenAI Research at Microsoft | Redmond, WA
- Working with Yen-Chun Chen, Mengchen Liu, and Lu Yuan
- Proposing efficient data generation pipeline with quadratic scaling and ChopinLLM [6], a customized MLLM for *complex scientific chart understanding*. NeurIPSW'24.

Sep. 2022 – March 2023

🔖 **Research Assistant**, Vision and Learning Lab (VLL) at NTU
advised by Prof. Yu-Chiang Frank Wang
- Building cManiGAN [7], the pioneering work for *weakly supervised text guided image manipulation*, co-advised by Dr. Yun-hsuan Sung and Da-Cheng Juan, Google Research
- Proposing LayoutTransformer [11] for *scene layout generation* with spatial and conceptual diversity, SOTA on COCO and Visual Genome

Mar. 2022 – Feb. 2023

🔖 **Research Intern**, Azure Computer Vision Research at Microsoft | Redmond, WA
- Working with Yen-Chun Chen, Dongdong Chen, Yu Cheng, and Lu Yuan
- Proposing Frido [6], a multi-scale diffusion model for *conditional complex scene image generation*, achieving SOTA on 4 benchmarks

Fall 2020 and Fall 2021

🔖 **Teaching Assistant**, Deep Learning for Computer Vision, NTU
- The most popular graduate-level DL course in NTU (150+ students each semester).
- Hosting *project seminars* sponsored by Microsoft Taiwan, Deep01, and Inventec.

July 2019 – Aug. 2020

🔖 **Research Assistant**, Institute of Information Science, Academia Sinica, Taiwan, advised by Prof. Tyng-Luh Liu
- Proposing MEC [5] for the *long-tailed object detection and instance segmentation*, achieving world ranking 7th in LVIS challenge [12] (+7 mAP over baseline), ECCV'20

Selected Publications

1. **Wan-Cyuan Fan**, Tanzila Rahman, Leonid Sigal. "MMFactory: A Universal Solution Search Engine for Vision-Language Tasks." In Submission, 2024. (📄 paper)

2. **Wan-Cyuan Fan**, Yen-Chun Chen, Mengchen Liu, Lu Yuan, Leonid Sigal. "On Pre-training of Multimodal Language Models Customized for Chart Understanding." NeurIPSW, 2024. (📄 paper)

3. Shivam Chandhok, **Wan-Cyuan Fan**, Leonid Sigal. "Response Wide Shut: Surprising Observations in Basic Vision Language Model Capabilities." ECCVW, 2024. (📄 paper)

4. Raghav Goyal*, **Wan-Cyuan Fan***, Mennatullah Siam, Leonid Sigal. "TAM-VT: Transformation-Aware Multi-scale Video Transformer for Segmentation and Tracking." WACV, 2025; ECCVW, 2024. (📄 paper)

5. **Wan-Cyuan Fan***, Cheng-Yao Hong*, Yen-Chi Hsu, Tyng-Luh Liu. "IoU-Aware Multi-Expert Cascade Network for Long-tailed Object Detection." ICASSP, 2023. (📄 paper)

6. **Wan-Cyuan Fan**, Yen-Chun Chen, Dongdong Chen, Yu Cheng, Lu Yuan, Yu-Chiang Frank Wang. "Frido: Feature Pyramid Diffusion for Complex Scene Image Synthesis." AAAI, 2023. (📄 paper)

7. **Wan-Cyuan Fan**, Cheng-Fu Yang, Chiao-An Yang, Yu-Chiang Frank Wang. "Target-free Text-guided Image Manipulation." AAAI, 2023. (📄 paper)

8. 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." NeurIPS, 2022. (📄 paper)

9. 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." CVPR, 2022. (📄 paper)

10. Chih-Chun Yang, **Wan-Cyuan Fan**, Cheng-Fu Yang, Yu-Chiang Frank Wang. "Cross-Modal Mutual Learning for Audio-Visual Speech Recognition and Manipulation." AAAI (Oral), 2022. (📄 paper)

11. Cheng-Fu Yang*, **Wan-Cyuan Fan***, Fu-En Yang, Yu-Chiang Frank Wang. "LayoutTransformer: Scene Layout Generation With Conceptual and Spatial Diversity." CVPR, 2021. (📄 paper)

12. **Wan-Cyuan Fan**, Cheng-Yao Hong, Yen-Chi Hsu, Tynh-Luh Liu. "Multi-expert heads of Long-tailed Instance Segmentation." ECCVW, 2020. (📄 paper)

Awards and Achievements

2023   🔖 **UBC 4YF Fellowship Award**, University of British Columbia, Canada. (**only ∼2 recipients in the CS department each year**) 🔗 link

2022   🔖 **Honorable Master Thesis Award**, The Chinese Image Processing and Pattern Recognition Society, Taiwan. (**only 11 recipients in Taiwan**) 🔗 link

2021   🔖 **Novatek Research Scholarship**, 3 recipients in NTU EECS (500+ students) 🔗 link

2020   🔖 **7th place**, Large Vocabulary Instance Segmentation Challenge, ECCV workshop. (**Top 1 among non-industrial teams**) 🔗 LVIS leaderboard (team: Argus) 🔗 Eval.AI 🔗 paper

2018   🔖 **Third prize**, Innovation and Entrepreneurship in Biotechnology Contest, Ministry of Education, Taiwan. 🔗 link 🔗 link