Dai-Jie Wu

daijie.wu@utah.edu Google Scholar jaywu109.github.io Dai-Jie Wu jaywu109

RESEARCH INTERESTS

My research aims to develop adaptive robot foundation models that support continual learning in real-world deployments. I design modular architectures and learning algorithms to enable rapid adaptation across environments and user contexts without retraining, with the long-term vision of realizing general-purpose robotic systems capable of lifelong learning and feedback-driven adaptation.

EDUCATION

University of Utah — **Salt Lake City, Utah, U.S.**
Ph.D. in Computer Science — *Starting from Jan. 2026*

National Cheng Kung University (NCKU) — **Tainan, Taiwan**
B.S. in Mechanical Engineering & B.B.A. in Statistics (Dual Degree) — *Sep. 2016 – June 2021*

PUBLICATIONS

[1] Huai-Chih Wang, Hsiang-Chun Chuang, Hsi-Chun Cheng, **Dai-Jie Wu**, Shao-Hua Sun, "*CooT: Learning to Coordinate In-Context with Coordination Transformers*", **ICML 2025 MAS Workshop** & **ICLR 2026 (under review)**.

[2] Tzu-Yuan Huang, Armin Lederer, **Dai-Jie Wu**, Xiaobing Dai, Sihua Zhang, Stefan Georg Sosnowski, Shao-Hua Sun, Sandra Hirche, "*SAD-Flower: Flow Matching for Safe, Admissible, and Dynamically Consistent Planning*", **ICLR 2026 (under review)**.

[3] Bo-Ruei Huang, Chun-Kai Yang, Chun-Mao Lai, **Dai-Jie Wu**, Shao-Hua Sun, "*Diffusion Imitation from Observation*", **NeurIPS 2024**.

[4] Tianqi Xu*, **Dai-Jie Wu***, Linyao Chen*, Yanjun Chen*, Zecheng Zhang, Xiang Yao, Zhiqiang Xie, Yongchao Chen, Shilong Liu, Bochen Qian, Anjie Yang, Zhaoxuan Jin, Jianbo Deng, Philip Torr, Bernard Ghanem, Guohao Li, "*CRAB: Cross-environment Agent Benchmark for Multimodal Language Model Agents*", **ACL Findings 2025** & **NeurIPS 2024 OWA Workshop**.

[5] **Dai-Jie Wu***, Pin-Yen Chiu*, Po-Hsun Chu, Chia-Hsuan Hsu, Hsiang-Chen Chiu, Chih-Yu Wang, Jun-Cheng Chen, "*StyleDiT: A Unified Framework for Diverse Child and Partner Faces Synthesis with Style Latent Diffusion Transformer*", **under review**.

[6] Jingyu Zhang*, Huitong Yang*, **Dai-Jie Wu***, Jacky Keung, Xinge Zhu, Yuexin Ma, "*Cross-Modal and Cross-Domain Knowledge Transfer for Label-Free 3D Segmentation*", **PRCV 2023**.

[7] **Dai-Jie Wu***, Pin-Yen Chiu*, Chih-Yu Wang, Jun-Cheng Chen, "*Towards Validating Face Editing Ability in Generative Models*", **VCIP 2024**.

[8] Andrea González-Muñoz, **Dai-Jie Wu**, Ana Belén Perera-Rodríguez, Mohamed Rekik, Silvio Giancola, Brande B. H. Wulff, Catherine Gardener, "*A high-throughput pipeline for phenotyping, object detection and quantification of leaf trichomes*", **TAG 2025**.

RESEARCH & INDUSTRY EXPERIENCE

SHENNONGSHI.AI — **Taipei, Taiwan**
Research Intern, Robot Learning for Cooking Applications — *May 2025 – Present*

- Focusing on robot learning applications for cooking, developing autonomous cooking systems and food preparation robotics.

Robot Learning Lab, National Taiwan University — **Taipei, Taiwan**
Research Assistant with Prof. Shao-Hua Sun — *May 2024 – Present*

- Researched and mentored junior students on projects intersecting robot learning, reinforcement learning, diffusion models, and foundation models.
- Led the lab's first-ever project utilizing a real-world robotic system, ALOHA, managing hardware setup, teleoperation data collection, and deployment from the ground up.

GenAI Center, King Abdullah University of Science and Technology (KAUST) **Thuwal, Saudi Arabia**

Research Engineer with Prof. Bernard Ghanem and Dr. Guohao Li *May 2023 – May 2024*

- Developed large-scale ML system for scalable inferences, reducing its latency by **250%** and cost by **300%**.
- Contributed to the core experimental codebase for advancing research in AI for Science and Agent development.

Research Center for Information Technology Innovation, Academia Sinica **Taipei, Taiwan (Remote)**

Research Assistant with Dr. Jun-Cheng Chen *Oct. 2022 – May 2023*

- Led research on generative models (Diffusion, GAN) for kinship face synthesis and editing, developing novel methods and completing two projects with papers submitted to top-tier venues.

Computer Vision Team, Wisers AI Lab **Taipei (Remote)**

Machine Learning Engineer (Research Associate) with Dr. Xiaochuan Yu *Aug. 2021 – June 2022*

- Engineered a face recognition system with **250%** efficiency and **10%** accuracy improvements, while optimizing **10+** APIs to streamline development and boost deployment speed by **15%**.

AWARDS & ACHIEVEMENTS

PhD Fellowship: Kahlert School of Computing at University of Utah

Silver Medal: International Conference on Computer Vision (ICCV) Landmark Retrieval Challenge

Silver Medal: NCKU Mechanical Engineering Department Capstone Robotic Competition

2nd Place: National Electric Vehicle Design and Innovation Challenge

Distinguished Freshman Scholarship: NCKU Mechanical Engineering Department

TEACHING EXPERIENCE & SERVICES

Teaching Assistant: Reinforcement Learning, Fall 2024, National Taiwan University

Reviewer: CoRL2025, ICCV 2025, ICLR 2025