Dai-Jie Wu

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RESEARCH INTERESTS

My research focuses on developing adaptive robot foundation models that enable continual learning and robust deployment in real-world environments. I am interested in improving deployment efficiency through fast inference, fine-tuning, and few-shot adaptation with limited data, while studying the data aspects of robot learning—such as identifying the most effective data formats, the right mix from across sources (e.g., real, simulated, synthetic, and human demonstrations), and designing indicators and proxies for data quality to guide model improvement.

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