

Dequan Wang, Ph.D.

✉ dequanwang@sjtu.edu.cn 🌐 <https://dequan.wang>

🏠 Assistant Professor at Shanghai Jiao Tong University

🔍 AI for Science, Multimodal Large Language Models



Education

- 2016 – 2022 Computer Science Ph.D. at **University of California, Berkeley**
GPA: 4.0/4.0, Advisor: Trevor Darrell
Thesis: *Learning to Generalize in Dynamic Environments*
- 2012 – 2016 Computer Science B.S. at **Fudan University**
GPA: 3.7/4.0, Rank: 2/111

Positions

- 2023 – Assistant Professor at **Shanghai Jiao Tong University**
- 2025 – Full-time Mentor at **Shanghai Innovation Institute**
- 2023 – 2024 Research Scientist at **Shanghai Artificial Intelligence Laboratory**

Distinctions

Academics & Research

- 2024 **NSFC Excellent Young Scientists (Overseas)**
Funded by National Natural Science Foundation of China (NSFC)
- 2021 **Shanghai Overseas High-Level Young Talent Program**
Selected by Organization Department of Shanghai Municipal Committee of the CPC
- 2020 **WAIC Rising Star Award**
Awarded by World Artificial Intelligence Conference (WAIC)

Services & Activities

- 2024 Organizer of CVPR Test-Time Adaptation Workshop
- 2023 Organizer of NeurIPS Foundation Model Prompting for Medical Image Classification Challenge
Guest Editor of MedIA Special Issue: Foundation Models for Medical Image Analysis
- 2017 Organizer of CVPR Autonomous Driving Workshop
Organizer of ICCV TASK-CV Domain Adaptation Workshop

Teaching

- Fall 2025 Hands-On Artificial Intelligence
Coding with AI: from Zero to Hero
- Summer 2025 Introduction to Large Language Models
- Spring 2025 Designing and Understanding Deep Neural Networks
Introduction to Large Language Models
- Fall 2024 Hands-On Artificial Intelligence

Teaching (continued)

Summer 2024	Introduction to Artificial Intelligence
Spring 2024	Designing and Understanding Deep Neural Networks

Publications

Journal Articles

- 1 **Dequan Wang**, Zheling Tan, Jin Gao, Shaoting Zhang, Jiaqi Shen, and Yuming Lu, "AI4Protein: Transforming the future of protein design," *SCIENCE CHINA Life Sciences*, 2025.
- 2 Zhenyu Wang, **Dequan Wang**, Yi Xu, Lingfeng Zhou, and Yiqi Zhou, "Intelligent computing social modeling and methodological innovations in political science in the era of large language models," *Journal of Chinese Political Science*, 2025.
- 3 **Dequan Wang**, Xiaosong Wang, Lilong Wang, Mengzhang Li, Qian Da, Xiaoqiang Liu, Xiangyu Gao, Jun Shen, Junjun He, Tian Shen, Qi Duan, Jie Zhao, Kang Li, Yu Qiao, and Shaoting Zhang, "A real-world dataset and benchmark for foundation model adaptation in medical image classification," *Scientific Data*, 2023.

Conference Proceedings

- 1 Mohan Jiang, Jin Gao, Jiahao Zhan, and **Dequan Wang**, "MAC: A live benchmark for multimodal large language models in scientific understanding," in *COLM*, 2025.
- 2 Fangyu Wu, **Dequan Wang**, Minjune Hwang, Chenhui Hao, Jiawei Lu, Jiamu Zhang, Christopher Chou, Trevor Darrell, and Alexandre Bayen, "Decentralized vehicle coordination: The berkeley deepdrive drone dataset and consensus-based models," in *ICRA*, 2025.
- 3 Lingfeng Zhou, Jialing Zhang, Jin Gao, Mohan Jiang, and **Dequan Wang**, "PersonaEval: Are llm evaluators human enough to judge role-play?" In *COLM*, 2025.
- 4 Jin Gao, Lei Gan, Yuankai Li, Yixin Ye, and **Dequan Wang**, "Dissecting dissonance: Benchmarking large multimodal models against self-contradictory instructions," in *ECCV*, 2024.
- 5 Siqi Kou, Lei Gan, **Dequan Wang**, Chongxuan Li, and Zhijie Deng, "BayesDiff: Estimating pixel-wise uncertainty in diffusion via bayesian inference," in *ICLR*, 2024.
- 6 Yifan Lu, Yue Hu, Yiqi Zhong, **Dequan Wang**, Siheng Chen, and Yanfeng Wang, "An extensible framework for open heterogeneous collaborative perception," in *ICLR*, 2024.
- 7 Juntu Zhao, Junyu Deng, Yixin Ye, Chongxuan Li, Zhijie Deng, and **Dequan Wang**, "Lost in translation: Latent concept misalignment in text-to-image diffusion models," in *ECCV*, 2024.
- 8 Jin Gao, Jialing Zhang, Xihui Liu, Trevor Darrell, Evan Shelhamer, and **Dequan Wang**, "Back to the source: Diffusion-driven adaptation to test-time corruption," in *CVPR*, 2023.
- 9 Yunkun Zhang, Jin Gao, Mu Zhou, Xiaosong Wang, Yu Qiao, Shaoting Zhang, and **Dequan Wang**, "Text-guided foundation model adaptation for pathological image classification," in *MICCAI*, 2023.
- 10 Dian Chen, **Dequan Wang**, Trevor Darrell, and Sayna Ebrahimi, "Contrastive test-time adaptation," in *CVPR*, 2022.
- 11 Xiaoxuan Liu, Lianmin Zheng, **Dequan Wang**, Yukuo Cen, Weize Chen, Xu Han, Jianfei Chen, Zhiyuan Liu, Jie Tang, Joey Gonzalez, Michael Mahoney, and Alvin Cheung, "GACT: Activation compressed training for generic network architectures," in *ICML*, 2022.
- 12 Jianfei Chen, Lianmin Zheng, Zhewei Yao, **Dequan Wang**, Ion Stoica, Michael Mahoney, and Joseph Gonzalez, "ActNN: Reducing training memory footprint via 2-bit activation compressed training," in *ICML*, 2021.

- 13 Qijing Huang, **Dequan Wang**, Zhen Dong, Yizhao Gao, Yaohui Cai, Tian Li, Bichen Wu, Kurt Keutzer, and John Wawrzyniek, “CoDeNet: Efficient deployment of input-adaptive object detection on embedded fpgas,” in *FPGA*, 2021.
- 14 **Dequan Wang**, Evan Shelhamer, Shaoteng Liu, Bruno Olshausen, and Trevor Darrell, “TENT: Fully test-time adaptation by entropy minimization,” in *ICLR*, 2021.
- 15 Hou-Ning Hu, Qi-Zhi Cai, **Dequan Wang**, Ji Lin, Min Sun, Philipp Krahenbuhl, Trevor Darrell, and Fisher Yu, “Joint monocular 3d vehicle detection and tracking,” in *ICCV*, 2019.
- 16 Chiyu Jiang, **Dequan Wang**, Jingwei Huang, Philip Marcus, and Matthias Nießner, “Convolutional neural networks on non-uniform geometrical signals using euclidean spectral transformation,” in *ICLR*, 2019.
- 17 **Dequan Wang**, Coline Devin, Qi-Zhi Cai, Philipp Krähenbühl, and Trevor Darrell, “Monocular plan view networks for autonomous driving,” in *IROS*, 2019.
- 18 **Dequan Wang**, Coline Devin, Qi-Zhi Cai, Fisher Yu, and Trevor Darrell, “Deep object-centric policies for autonomous driving,” in *ICRA*, 2019.
- 19 Fisher Yu, **Dequan Wang**, Evan Shelhamer, and Trevor Darrell, “Deep layer aggregation,” in *CVPR*, 2018.
- 20 Zhiqiang Shen, Yu-Gang Jiang, **Dequan Wang**, and Xiangyang Xue, “Iterative object and part transfer for fine-grained recognition,” in *ICME*, 2017.
- 21 **Dequan Wang**, Zhiqiang Shen, Jie Shao, Wei Zhang, Xiangyang Xue, and Zheng Zhang, “Multiple granularity descriptors for fine-grained categorization,” in *ICCV*, 2015.
- 22 Wei Zhang, Sheng Zeng, **Dequan Wang**, and Xiangyang Xue, “Weakly supervised semantic segmentation for social images,” in *CVPR*, 2015.

Technical Report

- 1 Keyu Li, Mohan Jiang, Dayuan Fu, Yunze Wu, Xiangkun Hu, **Dequan Wang**, and Pengfei Liu, “Datasetresearch: Benchmarking agent systems for demand-driven dataset discovery,” *arXiv preprint arXiv:2508.06960*, 2025.
- 2 Zheling Tan, Kexin Ding, Jin Gao, Mu Zhou, Dimitris Metaxas, Shaoting Zhang, and **Dequan Wang**, “Medforge: Building medical foundation models like open source software development,” *arXiv preprint arXiv:2502.16055*, 2025.
- 3 Yixing Li, Yuxian Gu, Li Dong, **Dequan Wang**, Yu Cheng, and Furu Wei, “Direct preference knowledge distillation for large language models,” *arXiv preprint arXiv:2406.19774*, 2024.
- 4 Xiaosong Wang, Xiaofan Zhang, Guotai Wang, Junjun He, Zhongyu Li, Wentao Zhu, Yi Guo, Qi Dou, Xiaoxiao Li, **Dequan Wang**, Liang Hong, Qicheng Lao, Tong Ruan, Yukun Zhou, Yixue Li, Jie Zhao, Kang Li, Xin Sun, Lifeng Zhu, and Shaoting Zhang, “OpenMEDLab: An open-source platform for multi-modality foundation models in medicine,” *arXiv preprint arXiv:2402.18028*, 2024.
- 5 Yunkun Zhang, Jin Gao, Zheling Tan, Lingfeng Zhou, Kexin Ding, Mu Zhou, Shaoting Zhang, and **Dequan Wang**, “Data-centric foundation models in computational healthcare: A survey,” *arXiv preprint arXiv:2401.02458*, 2024.
- 6 Huahui Yi, Ziyuan Qin, Qicheng Lao, Wei Xu, Zekun Jiang, **Dequan Wang**, Shaoting Zhang, and Kang Li, “Towards general purpose medical ai: Continual learning medical foundation model,” *arXiv preprint arXiv:2303.06580*, 2023.
- 7 **Dequan Wang**, An Ju, Evan Shelhamer, David Wagner, and Trevor Darrell, “Fighting gradients with gradients: Dynamic defenses against adversarial attacks,” *arXiv preprint arXiv:2105.08714*, 2021.

- 8 **Dequan Wang**, Shaoteng Liu, Sayna Ebrahimi, Evan Shelhamer, and Trevor Darrell, “On-target adaptation,” *arXiv preprint arXiv:2109.01087*, 2021.
- 9 Mong H Ng, Kaahan Radia, Jianfei Chen, **Dequan Wang**, Ionel Gog, and Joseph E Gonzalez, “BEV-Seg: Bird’s eye view semantic segmentation using geometry and semantic point cloud,” *arXiv preprint arXiv:2006.11436*, 2020.
- 10 Evan Shelhamer, **Dequan Wang**, and Trevor Darrell, “Blurring the line between structure and learning to optimize and adapt receptive fields,” *arXiv preprint arXiv:1904.11487*, 2019.
- 11 **Dequan Wang**, Evan Shelhamer, Bruno Olshausen, and Trevor Darrell, “Dynamic scale inference by entropy minimization,” *arXiv preprint arXiv:1908.03182*, 2019.
- 12 Xingyi Zhou, **Dequan Wang**, and Philipp Krähenbühl, “Objects as points,” *arXiv preprint arXiv:1904.07850*, 2019.
- 13 Xingchao Peng, Ben Usman, Neela Kaushik, Judy Hoffman, **Dequan Wang**, and Kate Saenko, “VisDA: The visual domain adaptation challenge,” *arXiv preprint arXiv:1710.06924*, 2017.
- 14 Judy Hoffman, **Dequan Wang**, Fisher Yu, and Trevor Darrell, “FCNs in the wild: Pixel-level adversarial and constraint-based adaptation,” *arXiv preprint arXiv:1612.02649*, 2016.
- 15 Jie Shao, **Dequan Wang**, Xiangyang Xue, and Zheng Zhang, “Learning to point and count,” *arXiv preprint arXiv:1512.02326*, 2015.