JIANYANG GU

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EDUCATION

Zhejiang University — Hangzhou, China
B.Eng. in Control Science and Engineering — *Sep. 2015 – Jun. 2019*

Zhejiang University — Hangzhou, China
Ph.D. in Control Science and Engineering — *Sep. 2019 – Exp. Jun. 2024*

- Supervised by Prof. Wei Jiang

National University of Singapore — Singapore
Visiting Scholar in School of Computing — *Sep. 2022 – Oct. 2023*

- Supervised by Prof. Yang You

RESEARCH INTEREST

Data-centric Efficient Training

- Reduce storage and computational data burden by synthesizing small surrogate datasets.
- Enhance the representativeness and diversity of generative diffusion techniques for data generation.
- Conduct more efficient training by selecting informative samples on both online and offline schemes.

Unsupervised Object Re-identification System (Ph.D. Project)

- Construct a network architecture generalizable for incoming unseen tasks.
- Design an unsupervised domain adaptation method to improve the accuracy on new tasks.
- Incorporate continual learning techniques to reduce the catastropic forgetting on previous tasks.

PUBLICATIONS

(* Equal contribution)

Data-centric Efficient Training

- **J. Gu**, S. Vahidian, V. Kungurtsev, H. Wang, W. Jiang, Y. You, and Y. Chen. Efficient Dataset Distillation via Minimax Diffusion. *Arxiv*, 2311.15529 (2023).
- **J. Gu**, K. Wang, W. Jiang, and Y. You. Summarizing Stream Data for Memory-Restricted Online Continual Learning. *AAAI* (2024).
- Y. Liu*, **J. Gu***, K. Wang, Z. Zhu, K. Zhang, W. Jiang, and Y. You. DREAM+: Efficient Dataset Distillation by Bidirectional Representative Matching. *Arxiv*, 2310.15052 (2023).
- Y. Lu, X. Chen, Y. Zhang, **J. Gu**, T. Zhang, Y. Zhang, X. Yang, Q. Xuan, K. Wang, Y. You. Can pre-trained models assist in dataset distillation?. *Arxiv*, 2310.03295 (2023).
- Y. Liu*, **J. Gu***, K. Wang, Z. Zhu, W. Jiang, and Y. You. DREAM: Efficient Dataset Distillation by Representative Matching. *ICCV* (2023).
- D. Zhou*, K. Wang*, **J. Gu***, D. Lian, X. Peng, Y. Zhang, Y. You, and J. Feng. Dataset Quantization. *ICCV* (2023).
- Z. Qin, K. Wang, Z. Zheng, **J. Gu**, X. Peng, D. Zhou, and Y. You. InfoBatch: Lossless Training Speed Up by Unbiased Dynamic Data Pruning. *Arxiv*, 2303.04947 (2023).
- K. Wang*, **J. Gu***, D. Zhou, Z. Zhu, W. Jiang, and Y. You. DiM: Distilling Dataset into Generative Model. *Arxiv*, 2303.04707 (2023).

Unsupervised Object Re-identification System (Ph.D. Project)

- X. Pan, H. Luo, W. Chen, F. Wang, H. Li, W. Jiang, J. Zhang, **J. Gu**, and P. Li. Dynamic Gradient Reactivation for Backward Compatible Person Re-identification. *PR*, 146, 110000 (2024).
- **J. Gu**, H. Luo, K. Wang, W. Jiang, Y. You, and J. Zhao. Color Prompting for Data-Free Continual Unsupervised Domain Adaptive Person Re-Identification. *Arxiv*, 2308.10716 (2023).
- **J. Gu**, K. Wang, H. Luo, C. Chen, W. Jiang, Y. Fang, S. Zhang, Y. You, and J. Zhao. MSINet: Twins Contrastive Search of Multi-Scale Interaction for Object ReID. *CVPR* (2023).
- **J. Gu**, W. Chen, H. Luo, F. Wang, H. Li, W. Jiang, and W. Mao. Multi-view Evolutionary Training for Unsupervised Domain Adpative Re-identification. *IEEE TIFS* 17, 344-356 (2022).

- R. Wei, **J. Gu**, S. He, and W. Jiang. Transformer-Based Domain-Specific Representation for Unsupervised Domain Adaptive Vehicle Re-Identification. *IEEE TITS*, 14 (2), 1-21 (2022).
- X. Pan, H. Luo, W. Jiang, J. Zhang, **J. Gu**, and P. Li. SFGN: Representing the sequence with one super frame for video person re-identification. *KnoSys*, 249, 108884 (2022).
- H. Xie, H. Luo, **J. Gu**, and W. Jiang. Unsupervised Domain Adaptive Person Re-Identification via Intermediate Domains. *Applied Science*, 12 (14), 6990 (2022).
- **J. Gu**, H. Luo, W. Chen, Y. Jiang, Y. Zhang, S. He, F. Wang. H. Li, and W. Jiang. 1st Place Solution to VisDA-2020: Bias Elimination for Domain Adaptive Pedestrian Re-identification. *ArXiv*, 2012.13498 (2021).
- **J. Gu**, W. Jiang, H. Luo, and H. Yu. An efficient global representation constrained by Angular Triplet loss for vehicle re-identification. *Pattern Anal Applic* 24, 367–379 (2021).
- H. Luo, W. Chen, X. Xu, **J. Gu**, Y. Zhang, C. Liu, Y. Jiang, S. He, F. Wang, and H. Li. An Empirical Study of Vehicle Re-Identification on the AI City Challenge. *CVPRW* 4095-4102 (2021).
- H. Luo, W. Jiang, Y. Gu, F. Liu, X. Liao, S. Lai, and **J. Gu**. A strong baseline and batch normalization neck for deep person re-identification. *TMM* 22(10), 2597-2609 (2019).

Other Topics

- W. Li*, S. Chen*, **J. Gu***, N. Wang, C. Chen, and Y. Guo. MV-TAL: Mulit-view temporal action localization in naturalistic driving. *CVPRW* 3242-3248 (2022).
- H. Wu, **J. Gu**, X. Fan, H. Li, L. Xie, and J. Zhao. 3D-Guided Frontal Face Generation for Pose-Invariant Recognition. *ACM TIST*, 14 (2), 1-21 (2022).
- S. Chen, W. Li, C. Chen, **J. Gu**, J. Chu, X. Tao, and Y. Guo. SEAL: A Large-scale Video Dataset of Multi-grained Spatio-temporally Action Localization. *ArXiv*, 2204.02688 (2022).

Industrial Experience

OPPO Research Intern Nov. 2021 – Jun. 2022

- Topic: generalizable object re-identification structure.

Alibaba Research Intern Jun. 2020 – Apr. 2021

- Topic: unsupervised domain adaptive person re-identification.

Yitu Tech. CI Intern May. 2018 – Aug. 2018

- Topic: automatic test pipeline for products.

Adademic Service

Conference Reviewer

- CVPR, ICCV, ECCV

Journal Reviewer

- IEEE TIV

Awards & Honors

- **Third Place, ActivityNet Temporal Action Localization Challenge in CVPR Workshop** 2022
- **Third Place, SoccerNet Challenge 2022 Action Spotting in CVPR Workshop** 2022
- **First Place, AICity Challenge 2021 Track 2 in CVPR Workshop** 2021
- **Alibaba Annual Outstanding Research Intern** 2020
- **Second Prize, National AI Challenge 2020 Person Re-Identification Track** 2020
- **First Place, Visual Domain Adaptation Challenge 2020 in ECCV Workshop** 2020
- **Annual Merit Graduate Student** 2020
- **First Place, Robocup Montreal** 2018

Other Information

- **President**, Student AI Association of Zhejiang University Aug. 2020 - Jun. 2021
- In my spare time, I like to take photos. Here are some of my works.