

Yixiao Ge

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EDUCATION

The Chinese University of Hong Kong, Multimedia Laboratory

- Ph.D. Candidate in Computer Vision and Deep Learning Aug 2018 – Exp. Jul 2021
 - Advisors: Prof. Hongsheng Li and Prof. Xiaogang Wang
 - Focus: Unsupervised learning, domain adaptation, disentangled learning, image retrieval and image generation.

Huazhong University of Science and Technology, School of Automation

- B.Eng. in Measurement and Control Technology and Instrument Sep 2013 – Jun 2017
 - Cumulative GPA: 3.81 / 4.00, Ranking: 2 / 48
 - Won National Scholarship, awarded as Pacemaker to Merit Student.

SELECTED PROJECTS

Domain Adaptive and Unsupervised Object Re-identification

- OpenUnReID Codebase Jun 2020 – Jul 2020
 - Act as the main developer.
 - An open-source codebase for both domain adaptive and unsupervised object re-ID tasks.
 - Provide strong baselines and multiple state-of-the-art methods with highly refactored codes.
- Improved Mutual Mean-Teaching (ECCVW 2020) ^[2] May 2020 – Jul 2020
 - Rank the 2nd place in the Visual Domain Adaptation Challenge.
 - Propose an improved version of our mutual mean-teaching framework.
 - Fully exploit both pseudo-label-based and domain translation-based methods.
- Self-paced Contrastive Learning (NeurIPS 2020) ^[6] Feb 2020 – Jun 2020
 - Propose a self-paced contrastive learning framework with hybrid memory and unified contrastive loss.
 - Surpass state-of-the-art algorithms on unsupervised re-ID by considerable 16.7% mAP.
- Structured Domain Adaptation (In Submission) ^[1] Aug 2019 – Nov 2019
 - Propose an online relation-consistency regularization to generate more informative training samples.
 - Fully explore the potential of domain translation-based methods, which have been ignored in recent years.
- Mutual Mean-Teaching (ICLR 2020) ^[4] Jan 2019 – Sep 2019
 - The first work on object re-ID tasks in ICLR.
 - Propose to conduct online label refinement with soft labels produced by mean-teaching networks in a mutual manner.
 - Surpass state-of-the-art algorithms on domain adaptive re-ID by up to 18% mAP.

Image-based Localization, Place Recognition

- OpenIBL Codebase Nov 2019 – Mar 2020
 - Act as the sole developer.
 - An open-source codebase for image-based localization and place recognition.
 - Provide PyTorch implementations for classic methods, e.g. NetVLAD (CVPR'16), etc.
- Self-supervising Fine-grained Region Similarities (ECCV 2020) ^[5] Nov 2019 – Mar 2020
 - Spotlight presentation.
 - Propose to self-supervise image-to-region similarities by training in generations.
 - Surpass state-of-the-art algorithms by 5.7% in terms of Recall@1.

Disentangled Representation Learning in Person Re-identification

- FD-GAN (NeurIPS 2018) ^[3] Feb 2018 – May 2018
 - The first work on person re-ID tasks in NeurIPS.
 - Propose to learn identity-related and pose-unrelated person features with a GAN-based framework.

PUBLICATIONS

TOP-TIER CONFERENCES

- [6] Y. Ge, F. Zhu, D. Chen, R. Zhao, and H. Li, “Self-paced Contrastive Learning with Hybrid Memory for Domain Adaptive Object Re-ID,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2020.
- [5] Y. Ge, H. Wang, F. Zhu, R. Zhao, and H. Li, “Self-supervising Fine-grained Region Similarities for Large-scale Image Localization” (Spotlight Presentation), in *European Conference on Computer Vision (ECCV)*, 2020.

- [4] Y. Ge, D. Chen, and H. Li, “Mutual Mean-Teaching: Pseudo Label Refinery for Unsupervised Domain Adaptation on Person Re-identification,” in *International Conference on Learning Representations (ICLR)*, 2020.
- [3] Y. Ge*, Z. Li*, H. Zhao, G. Yin, S. Yi, X. Wang, and H. Li, “FD-GAN: Pose-guided Feature Distilling GAN for Robust Person Re-identification,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2018.

PREPRINTS

- [2] Y. Ge, S. Yu, and D. Chen, “Improved Mutual Mean-Teaching for Unsupervised Domain Adaptive Re-ID,” technique report for *Visual Domain Adaptation Challenge (VisDA)*, in conjunction with *European Conference on Computer Vision (ECCV)*, 2020.
- [1] Y. Ge, F. Zhu, D. Chen, R. Zhao, X. Wang, and H. Li, “Structured Domain Adaptation with Online Relation Regularization for Unsupervised Person Re-ID,” in submission, 2020.

AWARDS & SCHOLARSHIPS

- Second Place, Visual Domain Adaptation Challenge 2020
An international competition in conjunction with ECCV 2020.
- Postgraduate Scholarship, The Chinese University of Hong Kong 2018 – 2022
For Ph.D. students within the normative period.
- First Prize, China Instrument and Control Society Scholarship 2016
For top 6 students in the field of instrument and control nationwide.
- Pacemaker to Merit Student, Huazhong University of Science and Technology 2015
For top 20 students school-wide.
- National Scholarship, Huazhong University of Science and Technology 2015
For top 1% students school-wide.

PROFESSIONAL ACTIVITIES

Journal Reviewer

- International Journal of Computer Vision
- IEEE Transactions on Image Processing
- IEEE Transactions on Circuits and Systems for Video Technology
- IEEE Transactions on Multimedia
- Neurocomputing

Conference Reviewer

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2021
- International Conference on Learning Representations (ICLR) 2021
- Neural Information Processing Systems (NeurIPS) 2020

WORK EXPERIENCE

Adobe Research

- Project Collaborator, Jul 2020 – Present
 - Collaborate with Dr. Ning Xu.
 - Work on image generation tasks.

SenseTime Research, Shenzhen, China

- Research Intern, May 2019 – Jun 2020
 - Worked with Dr. Feng Zhu, Dr. Dapeng Chen and Dr. Rui Zhao.
 - Worked on large-scale image localization, domain adaptation and unsupervised learning.

Multimedia Laboratory, The Chinese University of Hong Kong, Shatin NT, Hong Kong

- Research Assistant, Sep 2017 – Jul 2018
 - Supervised by Prof. Hongsheng Li and Prof. Xiaogang Wang.
 - Worked on breast cancer detection, video object detection, and representation learning with generative models.

TEACHING EXPERIENCE

The Chinese University of Hong Kong, Shatin NT, Hong Kong

- Teaching Assistant,
 - ENGG 2720: Complex Analysis 2020
 - ENGG 2420B: Complex Analysis and Differential Equations for Engineers 2019
 - ELEG 5491: Introduction to Deep Learning 2019
 - ENGG 2420A: Complex Analysis and Differential Equations for Engineers 2018