Yang Fengxiang

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Education

Southwest Petroleum University Sep. 2013 – Jun. 2017
Bachelor in Petroleum Engineering Sichuan, China

- **Coursework**: Fluid Dynamics, Advanced Mathematics.
- **Awards**:
  (1) National First Prize for the Contemporary Undergraduate Mathematical Contest in Modeling (CUMCM), 2015.
  (2) Honorable Mention Prize for MCM / ICM, 2015.

Xiamen University Sep. 2017 – Jun. 2020
Master in Pattern Recognition & Intelligent System Fujian, China

- **Coursework**: Data Structures, Algorithms, Computer Vision, Machine Learning.
- **Research Field**: Person Re-identification, Domain Adaptation.
- **Award**:
  (1) National First Prize for the National Post-Graduate Mathematical Contest in Modeling (GMCM), 2018.

Xiamen University Sep. 2020 – Present
Doctor in Computer Science Fujian, China

- **Research Field**: Person Re-identification, Domain Adaptation, Domain Generalization.

Publications

Introduction: All my publications are highly related to person re-ID. Person re-ID aims to locate target person in a video surveillance system with a complicated camera network, which can be used to find escaping criminals and lost children when surveillance cameras are available.

(1) Asymmetric Co-teaching for Unsupervised Cross-domain Person Re-ID

- In this paper, we devise a novel algorithm for the domain adaptation of person re-ID, which can improve the generalization of re-ID models with unlabeled data.
- The basic idea of the paper is using clustering algorithm to assign pseudo labels for unlabeled data and filter out label noise brought by clustering with co-teaching-like framework.
- This paper is done during an internship in Tencent and it has been accepted by AAAI 2020.

(2) Leveraging Virtual and Real Person for Unsupervised Person Re-ID

- In this paper, we design an unsupervised algorithm for person re-ID, which can train re-ID models without labeled samples and thereby reduces the burden of annotation.
- The basic process of the paper is composed of two steps. The first step is optimizing a generative model to generate fake images for the initialized training of re-ID models. The second step is using the initialized model to mine reliable samples for the further fine-tuning of the model.
- This paper has been accepted by IEEE T Multimedia 2020.

(3) Joint Noise-Tolerant Learning and Meta Camera Shift Adaptation for Unsupervised Person Re-ID

- In this paper, we propose a novel algorithm for unsupervised person re-ID.
- The paper devises a novel DSCE loss function to mitigate the negative effect brought by noisy samples in clustering, and proposes a meta-learning framework to align data distributions under different cameras for better performance.
- This paper has been accepted by CVPR 2021.

(4) Learning to Attack Real-World Models for Person Re-ID via Virtual-Guided Meta-Learning

- In this paper, we give an attack algorithm to check the robustness of re-ID models.
- The paper designs a virtual-guided meta-learning algorithm to attack unseen re-ID models with virtual images generated by Unity engine.
- This paper has been accepted by AAAI 2021.

Internship

Tencent Youtu Lab Apr. 2019 – Nov. 2019

Rhino-Bird Elite Training Program Shanghai, China

- We develop an algorithm to train and generalize re-ID models with unlabeled data, which can efficiently update the version of the model and reduce the labeling burden.
- The algorithm has been successfully utilized in the working flow of Tencent Youtu Lab.
- We write a paper about the algorithm and it had been accepted by AAAI 2020.

Skills

English Proficiency : TOEFL-iBT, 98.

Programming Languages : Python, MATLAB.