

行人重识别 **Person Re-identification / Person Retrieval** 专知荟萃

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入门学习

1. 行人重识别综述

- [http://www.jianshu.com/p/98cc04cca0ae?utm_campaign=maleskine&utm_content=note&utm_medium=seo_notes&utm_source=recommendation]

2. 基于深度学习的Person Re-ID（综述）

- [<http://blog.csdn.net/linolzhang/article/details/71075756>]

3. 郑哲东 -Deep-ReID：行人重识别的深度学习方法

- PPT: [<https://www.slideshare.net/ZhedongZheng1/deep-reid>]
- 视频: [<http://www.bilibili.com/video/av13796843/>]

4. 【行人识别】Deep Transfer Learning for Person Re-identification

- [<http://blog.csdn.net/shenxiaolu1984/article/details/53607268>]

5. 知乎专栏：行人重识别 [<https://zhuanlan.zhihu.com/personReid>]

- 行人重识别综述：从哈利波特地图说起
- 行人再识别中的迁移学习：图像风格转换（Learning via Translation）
- 行人对齐+重识别网络
- SVDNet for Pedestrian Retrieval：CNN到底认为哪个投影方向是重要的？
- 用GAN生成的图像做训练？Yes！
- 2017 ICCV 行人检索／重识别 接受论文汇总
- 从人脸识别 到 行人重识别，下一个风口

6. GAN（生成式对抗网络）的研究现状，以及在行人重识别领域的应用前景？

- [<https://www.zhihu.com/question/53001881/answer/170077548>]

7. Re-id Resources

- [https://wangzwhu.github.io/home/re_id_resources.html]

8. 行人再识别（行人重识别）【包含与行人检测的对比】

- [<http://blog.csdn.net/liuqinglong110/article/details/41699861>]

9. 行人重识别综述（Person Re-identification: Past, Present and Future）

- [<http://blog.csdn.net/auto1993/article/details/74091803>]

进阶论文及代码

Person Re-identification / Person Retrieval

1. DeepReID: Deep Filter Pairing Neural Network for Person Re-Identification

- intro: CVPR 2014
 - paper: [http://www.cv-foundation.org/openaccess/content_cvpr_2014/papers/Li_DeepReID_Deep_Filter_2014_CVPR_paper.pdf]
2. An Improved Deep Learning Architecture for Person Re-Identification
 - intro: CVPR 2015
 - paper: [http://www.cv-foundation.org/openaccess/content_cvpr_2015/papers/Ahmed_An_Improved_Deep_2015_CVPR_paper.pdf]
 - github: [<https://github.com/Ning-Ding/Implementation-CVPR2015-CNN-for-ReID>]
 3. Deep Ranking for Person Re-identification via Joint Representation Learning
 - intro: IEEE Transactions on Image Processing [TIP], 2016
 - arxiv: [<https://arxiv.org/abs/1505.06821>]
 4. PersonNet: Person Re-identification with Deep Convolutional Neural Networks
 - arxiv: [<http://arxiv.org/abs/1601.07255>]
 5. Learning Deep Feature Representations with Domain Guided Dropout for Person Re-identification
 - intro: CVPR 2016
 - arxiv: [<https://arxiv.org/abs/1604.07528>]
 - github: [https://github.com/Cysu/dgd_person_reid]
 6. Person Re-Identification by Multi-Channel Parts-Based CNN with Improved Triplet Loss Function
 - intro: CVPR 2016
 - paper: [http://www.cv-foundation.org/openaccess/content_cvpr_2016/papers/Cheng_Person_Re-Identification_by_CVPR_2016_paper.pdf]
 7. End-to-End Comparative Attention Networks for Person Re-identification
 - [<https://arxiv.org/abs/1606.04404>]
 8. A Multi-task Deep Network for Person Re-identification
 - arxiv: [<http://arxiv.org/abs/1607.05369>]
 9. Gated Siamese Convolutional Neural Network Architecture for Human Re-Identification
 - arxiv: [<http://arxiv.org/abs/1607.08378>]
 10. A Siamese Long Short-Term Memory Architecture for Human Re-Identification
 - arxiv: [<http://arxiv.org/abs/1607.08381>]
 11. Gated Siamese Convolutional Neural Network Architecture for Human Re-Identification
 - arxiv: [<https://arxiv.org/abs/1607.08378>]
 12. Person Re-identification: Past, Present and Future
 - [<https://arxiv.org/abs/1610.02984>]
 13. Deep Learning Prototype Domains for Person Re-Identification
 - arxiv: [<https://arxiv.org/abs/1610.05047>]
 14. Deep Transfer Learning for Person Re-identification
 - arxiv: [<https://arxiv.org/abs/1611.05244>]
 15. A Discriminatively Learned CNN Embedding for Person Re-identification
 - arxiv: [<https://arxiv.org/abs/1611.05666>]
 - github[MatConvnet]: [https://github.com/layumi/2016_person_re-ID]
 16. Structured Deep Hashing with Convolutional Neural Networks for Fast Person Re-identification
 - arxiv: [<https://arxiv.org/abs/1702.04179>]
 17. In Defense of the Triplet Loss for Person Re-Identification
 - arxiv: [<https://arxiv.org/abs/1703.07737>]
 - github[Theano]: [<https://github.com/VisualComputingInstitute/triplet-reid>]
 18. Beyond triplet loss: a deep quadruplet network for person re-identification
 - intro: CVPR 2017
 - arxiv: [<https://arxiv.org/abs/1704.01719>]
 19. Part-based Deep Hashing for Large-scale Person Re-identification
 - intro: IEEE Transactions on Image Processing, 2017

- arxiv: [<https://arxiv.org/abs/1705.02145>]
- 20. Deep Person Re-Identification with Improved Embedding
 - [<https://arxiv.org/abs/1705.03332>]
- 21. Towards a Principled Integration of Multi-Camera Re-Identification and Tracking through Optimal Bayes Filters
 - arxiv: [<https://arxiv.org/abs/1705.04608>]
 - github: [<https://github.com/VisualComputingInstitute/towards-reid-tracking>]
- 22. Person Re-Identification by Deep Joint Learning of Multi-Loss Classification
 - intro: IJCAI 2017
 - arxiv: [<https://arxiv.org/abs/1705.04724>]
- 23. Attention-based Natural Language Person Retrieval
 - intro: CVPR 2017 Workshop [vision meets cognition]
 - keywords: Bidirectional Long Short- Term Memory [BLSTM]
 - arxiv: [<https://arxiv.org/abs/1705.08923>]
- 24. Unsupervised Person Re-identification: Clustering and Fine-tuning
 - arxiv: [<https://arxiv.org/abs/1705.10444>]
 - github: [<https://github.com/hehefan/Unsupervised-Person-Re-identification-Clustering-and-Fine-tuning>]
- 25. Deep Representation Learning with Part Loss for Person Re-Identification
 - [<https://arxiv.org/abs/1707.00798>]
- 26. Pedestrian Alignment Network for Large-scale Person Re-identification
 - [https://raw.githubusercontent.com/layumi/Pedestrian_Alignment/master/fig2.jpg]
 - arxiv: [<https://arxiv.org/abs/1707.00408>]
 - github: [https://github.com/layumi/Pedestrian_Alignment]
- 27. Deep Reinforcement Learning Attention Selection for Person Re-Identification
 - [<https://arxiv.org/abs/1707.02785>]
- 28. Learning Efficient Image Representation for Person Re-Identification
 - [<https://arxiv.org/abs/1707.02319>]
- 29. Person Re-identification Using Visual Attention
 - intro: ICIP 2017
 - arxiv: [<https://arxiv.org/abs/1707.07336>]
- 30. Deeply-Learned Part-Aligned Representations for Person Re-Identification
 - intro: ICCV 2017
 - arxiv: [<https://arxiv.org/abs/1707.07256>]
- 31. What-and-Where to Match: Deep Spatially Multiplicative Integration Networks for Person Re-identification
 - [<https://arxiv.org/abs/1707.07074>]
- 32. Deep Feature Learning via Structured Graph Laplacian Embedding for Person Re-Identification
 - [<https://arxiv.org/abs/1707.07791>]
- 33. Divide and Fuse: A Re-ranking Approach for Person Re-identification
 - intro: BMVC 2017
 - arxiv: [<https://arxiv.org/abs/1708.04169>]
- 34. Large Margin Learning in Set to Set Similarity Comparison for Person Re-identification
 - intro: IEEE Transactions on Multimedia
 - arxiv: [<https://arxiv.org/abs/1708.05512>]
- 35. Multi-scale Deep Learning Architectures for Person Re-identification
 - intro: ICCV 2017
 - arxiv: [<https://arxiv.org/abs/1709.05165>]
- 36. Pose-driven Deep Convolutional Model for Person Re-identification
 - [<https://arxiv.org/abs/1709.08325>]
- 37. HydraPlus-Net: Attentive Deep Features for Pedestrian Analysis
 - intro: ICCV 2017. CUHK & SenseTime,
 - arxiv: [<https://arxiv.org/abs/1709.09930>]

- github: [<https://github.com/xh-liu/HydraPlus-Net>]
- 38. Person Re-Identification with Vision and Language
 - [<https://arxiv.org/abs/1710.01202>]
- 39. Margin Sample Mining Loss: A Deep Learning Based Method for Person Re-identification
 - [<https://arxiv.org/abs/1710.00478>]
- 40. Learning Deep Context-aware Features over Body and Latent Parts for Person Re-identification
 - intro: CVPR 2017. CASIA
 - keywords: Multi-Scale Context-Aware Network [MSCAN]
 - arxiv: [<https://arxiv.org/abs/1710.06555>]
- 41. Pseudo-positive regularization for deep person re-identification
 - [<https://arxiv.org/abs/1711.06500>]
- 42. Let Features Decide for Themselves: Feature Mask Network for Person Re-identification
 - keywords: Feature Mask Network [FMN]
 - arxiv: [<https://arxiv.org/abs/1711.07155>]
- 43. Image-Image Domain Adaptation with Preserved Self-Similarity and Domain-Dissimilarity for Person Re-identification
 - [<https://arxiv.org/abs/1711.07027>]
- 44. AlignedReID: Surpassing Human-Level Performance in Person Re-Identification
 - intro: Megvii, Inc & Zhejiang University
 - arxiv: [<https://arxiv.org/abs/1711.08184>]
 - evaluation website: [Market1501]: [<http://reid-challenge.megvii.com/>]
 - evaluation website: [CUHK03]: [<http://reid-challenge.megvii.com/cuhk03>]
- 45. Region-based Quality Estimation Network for Large-scale Person Re-identification
 - intro: AAAI 2018
 - arxiv: [<https://arxiv.org/abs/1711.08766>]
- 46. Deep-Person: Learning Discriminative Deep Features for Person Re-Identification
 - [<https://arxiv.org/abs/1711.10658>]
- 47. A Pose-Sensitive Embedding for Person Re-Identification with Expanded Cross Neighborhood Re-Ranking
 - arxiv: [<https://arxiv.org/abs/1711.10378>]
 - github: [<https://github.com/pse-ecv/pose-sensitive-embedding>]

Person Search

1. Joint Detection and Identification Feature Learning for Person Search
 - intro: CVPR 2017
 - keywords: Online Instance Matching OIM loss function
 - homepage[dataset+code]: [<http://www.ee.cuhk.edu.hk/~xgwan/PS/dataset.html>]
 - arxiv: [<https://arxiv.org/abs/1604.01850>]
 - paper: [<http://www.ee.cuhk.edu.hk/~xgwan/PS/paper.pdf>]
 - github[official. Caffe]: [https://github.com/ShuangLI59/person_search]
2. Person Re-identification in the Wild
 - intro: CVPR 2017 spotlight
 - keywords: PRW dataset
 - project page: [http://www.liangzheng.com.cn/Project/project_prw.html]
 - arxiv: [<https://arxiv.org/abs/1604.02531>]
 - github: [<https://github.com/liangzheng06/PRW-baseline>]
3. IAN: The Individual Aggregation Network for Person Search
 - [<https://arxiv.org/abs/1705.05552>]
4. Neural Person Search Machines
 - intro: ICCV 2017
 - arxiv: [<https://arxiv.org/abs/1707.06777>]

Re-ID with GAN

1. Unlabeled Samples Generated by GAN Improve the Person Re-identification Baseline in vitro

intro: ICCV 2017

- arxiv: [<https://arxiv.org/abs/1701.07717>]
- github: [https://github.com/layumi/Person-reID_GAN]

2. Person Transfer GAN to Bridge Domain Gap for Person Re-Identification

- [<https://arxiv.org/abs/1711.08565>]

Vehicle Re-ID

1. Learning Deep Neural Networks for Vehicle Re-ID with Visual-spatio-temporal Path Proposals

- intro: ICCV 2017
- arxiv: [<https://arxiv.org/abs/1708.03918>]

Deep Metric Learning

1. Deep Metric Learning for Person Re-Identification

- intro: ICPR 2014
- paper: [<http://www.cbsr.ia.ac.cn/users/zlei/papers/ICPR2014/Yi-ICPR-14.pdf>]

2. Deep Metric Learning for Practical Person Re-Identification

- [<https://arxiv.org/abs/1407.4979>]

3. Constrained Deep Metric Learning for Person Re-identification

- [<https://arxiv.org/abs/1511.07545>]

4. DarkRank: Accelerating Deep Metric Learning via Cross Sample Similarities Transfer

- intro: TuSimple
- keywords: pedestrian re-identification
- arxiv: [<https://arxiv.org/abs/1707.01220>]

Re-ID with Attributes Prediction

1. Deep Attributes Driven Multi-Camera Person Re-identification

- intro: ECCV 2016
- arxiv: [<https://arxiv.org/abs/1605.03259>]

2. Improving Person Re-identification by Attribute and Identity Learning

- [<https://arxiv.org/abs/1703.07220>]

Video-based Person Re-Identification

1. Recurrent Convolutional Network for Video-based Person Re-Identification

- intro: CVPR 2016
- paper: [http://www.cv-foundation.org/openaccess/content_cvpr_2016/papers/McLaughlin_Recurrent_Convolutional_Network_CVPR_2016_paper.pdf]
- github: [<https://github.com/niallmcl/Recurrent-Convolutional-Video-ReID>]

2. Deep Recurrent Convolutional Networks for Video-based Person Re-identification: An End-to-End Approach

- [<https://arxiv.org/abs/1606.01609>]

3. Jointly Attentive Spatial-Temporal Pooling Networks for Video-based Person Re-Identification

- intro: ICCV 2017
- arxiv: [<https://arxiv.org/abs/1708.02286>]

4. Three-Stream Convolutional Networks for Video-based Person Re-Identification

- [<https://arxiv.org/abs/1712.01652>]

Re-ranking

1. Re-ranking Person Re-identification with k-reciprocal Encoding

- intro: CVPR 2017
- arxiv: [<https://arxiv.org/abs/1701.08398>]
- github: [<https://github.com/zhunzhong07/person-re-ranking>]

实战项目

1. Open-ReID: Open source person re-identification library in python

- intro: Open-ReID is a lightweight library of person re-identification for research purpose. It aims to provide a uniform interface for different datasets, a full set of models and evaluation metrics, as well as examples to reproduce [near] state-of-the-art results.
- project page: [<https://cysu.github.io/open-reid/>]
- github[PyTorch]: [<https://github.com/Cysu/open-reid>]
- examples: [https://cysu.github.io/open-reid/examples/training_id.html]
- benchmarks: [<https://cysu.github.io/open-reid/examples/benchmarks.html>]

2. caffe-PersonReID

- intro: Person Re-Identification: Multi-Task Deep CNN with Triplet Loss
- github: [<https://github.com/agjayant/caffe-Person-ReID>]

3. DukeMTMC-reID_baseline Matlab

- [https://github.com/layumi/DukeMTMC-reID_baseline]

4. Code for IDE baseline on Market-1501

- [<https://github.com/zhunzhong07/IDE-baseline-Market-1501>]

教程

1. 1st Workshop on Target Re-Identification and Multi-Target Multi-Camera Tracking

- [<https://reid-mct.github.io/>]

2. 郑哲东 -Deep-ReID: 行人重识别的深度学习方法

- PPT: [<https://www.slideshare.net/ZhedongZheng1/deep-reid>]
- 视频: [<http://www.bilibili.com/video/av13796843/>]

3. Person Identification in Large Scale Camera Networks Wei-Shi Zheng (郑伟诗)

- [<http://isee.sysu.edu.cn/~zhwshi/Research/ADL-OPEN.pdf>]

4. Person Re-Identification: Theory and Best Practice

- [<http://www.micc.unifi.it/reid-tutorial/slides/>]

综述

1. Person Re-identification: Past, Present and Future Liang Zheng, Yi Yang, Alexander G. Hauptmann

- [<https://arxiv.org/abs/1610.02984>]

2. Person Re-Identification Book

- [<https://link.springer.com/book/10.1007/978-1-4471-6296-4>]

3. A Systematic Evaluation and Benchmark for Person Re-Identification: Features, Metrics, and Datasets

- [<http://lanl.arxiv.org/abs/1605.09653>]

4. People reidentification in surveillance and forensics: A survey

- [<https://dl.acm.org/citation.cfm?doid=2543581.2543596>]

数据集

1. Re-ID 数据集汇总

- [<https://robustsystems.coe.neu.edu/sites/robustsystems.coe.neu.edu/files/systems/projectpages/reiddataset.html>]

图像数据集

1. Market-1501 Dataset 751个人, 27种属性, 一共约三万张图像 (一人多图)

- [http://www.liangzheng.org/Project/project_reid.html]
- Code for IDE baseline on Market-1501 :[<https://github.com/zhunzhong07/IDE-baseline-Market-1501>]

2. DukeMTMC-reID DukeMTMC数据集的行人重识别子集, 原始数据集地址(<http://vision.cs.duke.edu/DukeMTMC/>), 为行人跟踪数据集。原始数据集包含了85分钟的高分辨率视频, 采集自8个不同的摄像头。并且提供了人工标注的**bounding box**。最终, DukeMTMC-reID 包含了 16,522张训练图片 (来自702个人), 2,228个查询图像 (来自另外的702个人), 以及 17,661 张图像的搜索库 (gallery)。并提供切割后的图像供下载。

- [https://github.com/layumi/DukeMTMC-reID_evaluation]

3. CUHK01, 02, 03

- [<http://www.ee.cuhk.edu.hk/~rzhao/>]

Attribute相关数据集

1. RAP

- [<https://link.zhihu.com/?target=http%3A//rap.idealtest.org/>]

2. Attribute for Market-1501 and DukeMTMC_reID

- [<https://link.zhihu.com/?target=https%3A//vana77.github.io/>]

视频相关数据集

1. Mars

- [http://liangzheng.org/Project/project_mars.html]

2. PRID2011

- [<https://www.tugraz.at/institute/icg/research/team-bischof/lrs/downloads/>]

NLP相关数据集:

1. 自然语言搜图像

- [<http://xiaotong.me/static/projects/person-search-language/dataset.html>]

2. 自然语言搜索行人所在视频

- [http://www.mi.t.u-tokyo.ac.jp/projects/person_search]

领域专家

1. Shaogang Gong - [<http://www.eecs.qmul.ac.uk/~sgg/>]

2. Xiaogang Wang

- [<http://www.ee.cuhk.edu.hk/~xgwgang/>]

3. Weishi Zheng

- [<https://sites.google.com/site/sunnyweishi/>]

4. Liang Zheng

- [<http://www.liangzheng.com.cn/>]

5. Chen Change Loy

- [<https://staff.ie.cuhk.edu.hk/~ccloy/>]

6. Qi Tian

- [<http://www.cs.utsa.edu/~qitian/tian-publication-year.html>]

7. Shengcai Liao

- [<http://www.cbsr.ia.ac.cn/users/scliao/>]

8. Rui Zhao

- [<http://www.ee.cuhk.edu.hk/~rzhao/>]

9. Yang Yang

- [<http://www.cbsr.ia.ac.cn/users/yyang/main.htm>]

10. Ling Shao

- [<http://lshao.staff.shef.ac.uk/>]

11. Ziyang Wu

- [<http://wuziyang.com/>]

12. DaPeng Chen

- [<http://gr.xjtu.edu.cn/web/dapengchen/home>]

13. Horst Bischof

- [<https://www.tugraz.at/institute/icg/research/team-bischof/lrs/downloads/prid450s>]

14. Niki Martinel

- [<http://users.dimi.uniud.it/~niki.martinel/>]

15. Liang Lin
 - [<http://hcp.sysu.edu.cn/home/>]
16. Le An
 - [<http://auto.hust.edu.cn/index.php?a=shows&catid=28&id=134>]
17. Xiang Bai
 - [<http://mc.eistar.net/~xbai/index.html>]
18. Xiaoyuan Jing
 - [<http://mla.whu.edu.cn/plus/list.php?tid=2>]
19. Fei Xiong
 - [<http://robustsystems.coe.neu.edu/?q=content/research>]
20. DaPeng Chen
 - [<http://gr.xjtu.edu.cn/web/dapengchen/home>]