

图像检索 (Image Retrieval) 专知荟萃

入门学习

1. 相似图片搜索的原理 阮一峰
 - [http://www.ruanyifeng.com/blog/2011/07/principle_of_similar_image_search.html]
2. Google 图片搜索的原理是什么 ?
 - [<https://www.zhihu.com/question/19726630>]
3. 基于内容的图像检索技 (CBIR) 术相术介绍
 - [<http://blog.csdn.net/kezunhai/article/details/11614989>]
4. 图像检索 : 基于内容的图像检索技术
 - [<http://yongyuan.name/blog/cbir-technique-summary.html>]
5. 基于内容的图像检索技术
 - [<http://www.cs.cmu.edu/~juny/Prof/papers/Part2-CBIR.pdf>]
6. 图像检索 : CNN卷积神经网络与实战 CNN for Image Retrieval
 - [<http://yongyuan.name/blog/CBIR-CNN-and-practice.html>]
7. 用Python和OpenCV创建一个图片搜索引擎的完整指南
 - [<http://blog.csdn.net/kezunhai/article/details/46417041>]

进阶文章

2011

1. Using Very Deep Autoencoders for Content-Based Image Retrieval
 - [<https://www.cs.toronto.edu/~hinton/absps/esann-deep-final.pdf>]

2013

1. Learning High-level Image Representation for Image Retrieval via Multi-Task DNN using Clickthrough Data
 - [<http://arxiv.org/abs/1312.4740>]

2014

1. Neural Codes for Image Retrieval
 - [<http://arxiv.org/abs/1404.1777>]
2. Efficient On-the-fly Category Retrieval using ConvNets and GPUs
 - [<http://arxiv.org/abs/1407.4764>]

2015

1. Learning visual similarity for product design with convolutional neural networks SIGGRAPH 2015
 - [<http://www.cs.cornell.edu/~kb/publications/SIG15ProductNet.pdf>]
2. Exploiting Local Features from Deep Networks for Image Retrieval
 - [<https://arxiv.org/abs/1504.05133>]
3. Cross-domain Image Retrieval with a Dual Attribute-aware Ranking Network ICCV 2015
 - [<http://arxiv.org/abs/1505.07922>]
4. Where to Buy It: Matching Street Clothing Photos in Online Shops ICCV 2015
 - [<http://www.tamaraberg.com/papers/street2shop.pdf>]

5. Aggregating Deep Convolutional Features for Image Retrieval
 - [<http://arxiv.org/abs/1510.07493>]
6. Particular object retrieval with integral max-pooling of CNN activations
 - [<https://arxiv.org/abs/1511.05879>]

2016

1. Deep Image Retrieval: Learning global representations for image search ECCV 2016
 - [<https://arxiv.org/abs/1604.01325>]
2. Learning Compact Binary Descriptors with Unsupervised Deep Neural Networks. CVPR 2016
 - [http://www.cv-foundation.org/openaccess/content_cvpr_2016/papers/Lin_Learning_Compact_Binary_CVPR_2016_paper.pdf]
3. Fast Training of Triplet-based Deep Binary Embedding Networks. CVPR 2016
 - [http://www.cv-foundation.org/openaccess/content_cvpr_2016/papers/Zhuang_Fast_Training_of_CVPR_2016_paper.pdf]
4. Deep Relative Distance Learning: Tell the Difference Between Similar Vehicles. CVPR 2016
 - [http://www.cv-foundation.org/openaccess/content_cvpr_2016/papers/Liu_Deep_Relative_Distance_CVPR_2016_paper.pdf]
5. Bags of Local Convolutional Features for Scalable Instance Search. Best Poster Award at ICMR 2016.
 - [<https://imatge-upc.github.io/retrieval-2016-icmr/>]
6. Group Invariant Deep Representations for Image Instance Retrieval
 - [<http://arxiv.org/abs/1601.02093>]
7. Natural Language Object Retrieval
 - [<http://arxiv.org/abs/1511.04164>]
8. Faster R-CNN Features for Instance Search
 - [<http://imatge-upc.github.io/retrieval-2016-deepvision/>]
9. Where to Focus: Query Adaptive Matching for Instance Retrieval Using Convolutional Feature Maps
 - [<https://arxiv.org/abs/1606.06811>]
10. Adversarial Training For Sketch Retrieval
 - [<http://arxiv.org/abs/1607.02748>]
11. DeepFashion: Powering Robust Clothes Recognition and Retrieval with Rich Annotations
 - [<http://personal.ie.cuhk.edu.hk/~lz013/projects/DeepFashion.html>]
12. CNN Image Retrieval Learns from BoW: Unsupervised Fine-Tuning with Hard Examples
 - [<http://cmp.felk.cvut.cz/~radenfil/projects/siamac.html>]
13. PicHunt: Social Media Image Retrieval for Improved Law Enforcement
 - [<http://arxiv.org/abs/1608.00905>]
14. The Sketchy Database: Learning to Retrieve Badly Drawn Bunnies
 - [<http://sketchy.eye.gatech.edu/>]
15. End-to-end Learning of Deep Visual Representations for Image Retrieval
 - [<http://www.xrce.xerox.com/Research-Development/Computer-Vision/Learning-Visual-Representations/Deep-Image-Retrieval>]
16. What Is the Best Practice for CNNs Applied to Visual Instance Retrieval?
 - [<https://arxiv.org/abs/1611.01640>]

2017

1. AMC: Attention guided Multi-modal Correlation Learning for Image Search. CVPR 2017

- [<https://arxiv.org/abs/1704.00763>]
- 2. Deep image representations using caption generators. ICME 2017
 - [<https://arxiv.org/abs/1705.09142>]
- 3. One-Shot Fine-Grained Instance Retrieval. ACM MM 2017
 - [<https://arxiv.org/abs/1707.00811>]
- 4. Selective Deep Convolutional Features for Image Retrieval. ACM MM 2017
 - [<https://arxiv.org/abs/1707.00809>]
- 5. Deep Binaries: Encoding Semantic-Rich Cues for Efficient Textual-Visual Cross Retrieval. ICCV 2017
 - [<https://arxiv.org/abs/1708.02531>]
- 6. Image2song: Song Retrieval via Bridging Image Content and Lyric Words. ICCV 2017
 - [<https://arxiv.org/abs/1708.05851>]
- 7. SIFT Meets CNN: A Decade Survey of Instance Retrieval
 - [<http://arxiv.org/abs/1608.01807>]
- 8. Image Retrieval with Deep Local Features and Attention-based Keypoints
 - [<https://arxiv.org/abs/1612.05478>]

综述

1. Recent Advance in Content-based Image Retrieval: A Literature Survey. Wengang Zhou, Houqiang Li, and Qi Tian 2017
 - [<https://arxiv.org/pdf/1706.06064.pdf>]
2. Intelligent Image Retrieval Techniques: A Survey 2014
 - [<http://www.sciencedirect.com/science/article/pii/S1665642314716098>]
3. A survey on content based image retrieval. 2013
 - [<http://ieeexplore.ieee.org/document/6496719/>]

Tutorial

1. CVPR' 16 Tutorial on Image Tag Assignment, Refinement and Retrieval
 - [<http://www.lambertoballan.net/2016/06/cvpr16-tutorial-image-tag-assignment-refinement-and-retrieval/>]
2. Content-based image retrieval tutorial by Joani Mitro
 - [<https://arxiv.org/pdf/1608.03811.pdf>]
3. Tutorial on Image Retrieval System, (IRS)
 - [<http://da.biostr.washington.edu/~sigdemos/tutorial/tutorial.pdf>]

视频教程

1. Deep Image Retrieval: Learning global representations for image search
 - [<https://www.youtube.com/watch?v=yT52xDML6ys>]
2. Image Instance Retrieval: Overview of state-of-the-art
 - [<https://www.youtube.com/watch?v=EYq-rpaZn1o>]

代码

1. Neural Codes for Image Retrieval
 - [<https://github.com/arbabenko/Spoc>]
2. Natural Language Object Retrieval

- [<https://github.com/andrewliao11/Natural-Language-Object-Retrieval-tensorflow>]
- 3. Bags of Local Convolutional Features for Scalable Instance Search
 - [<https://github.com/imatge-upc/retrieval-2016-icmr>]
- 4. Faster R-CNN Features for Instance Search
 - [<https://github.com/imatge-upc/retrieval-2016-deepvision>]
- 5. CNN Image Retrieval Learns from BoW: Unsupervised Fine-Tuning with Hard Examples
 - [http://ptak.felk.cvut.cz/personal/radenfil/siamac/siaMAC_code.tar.gz]
- 6. Class-Weighted Convolutional Features for Visual Instance Search
 - [<https://github.com/imatge-upc/retrieval-2017-cam>]

领域专家

1. Hervé Jégou
 - [<http://people.rennes.inria.fr/Herve.Jegou/>]
2. Andrew Zisserman
 - [<https://www.robots.ox.ac.uk/~az/>]
3. Qi Tian
 - [<http://www.cs.utsa.edu/~qitian/>]
4. Artem Babenko
 - [<https://www.hse.ru/en/org/persons/133709478>]

Datasets

1. Corel 1000 and 10,000 图像数据库
 - [<http://wang.ist.psu.edu/docs/related/>]
2. The COREL Database for Content based Image Retrieval
 - [<https://sites.google.com/site/dctresearch/Home/content-based-image-retrieval>]
3. Corel-5K and Corel -10K Datasets该页面下面给出了图片的链接，可以用python写个脚本把它们爬下来。
 - [<http://www.ci.gxnu.edu.cn/cbir/Dataset.aspx>]
4. INSTRE，中科院计算所弄的一个数据库28543张图片，还有他们做的web检索系统ISIA。
 - [<http://vipl.ict.ac.cn/isia/instre/>]
5. MIRFLICKR 1M数据库，100多g。
 - [<http://press.liacs.nl/mirflickr/mirdownload.html>]
6. Image Similarity Triplet Dataset
 - [http://users.eecs.northwestern.edu/~jwa368/my_data.html]
7. INRIA Holidays 该数据集是Herve Jegou研究所经常度假时拍的图片（风景为主），一共1491张图，500张query（一张图一个group）和对应着991张相关图像，已提取了128维的SIFT点4455091个，visual dictionaries来自Flickr60K。
 - [<http://lear.inrialpes.fr/~jegou/data.php>]
8. Oxford Buildings Dataset，5k Dataset images，有5062张图片，是牛津大学VGG小组公布的，在基于词汇树做检索的论文里面，这个数据库出现的频率极高。
 - [<http://www.robots.ox.ac.uk/~vgg/data/oxbuildings/>]
9. Oxford Paris，The Paris Dataset，oxford的VGG组从Flickr搜集了6412张巴黎旅游图片，包括Eiffel Tower等。
 - [<http://www.robots.ox.ac.uk/~vgg/data/parisbuildings/>]
10. 201Books and CTurin180 The CTurin180 and 201Books Data Sets，2011.5，Telecom Italia提供于Compact Descriptors for Visual Search，该数据集包括：Nokia E7拍摄的201本书的封面图片（多视角拍摄，各6张），共1.3GB；Turin市180个建筑的视频图像，拍摄的camera有Galaxy S、iPhone 3、Canon A410、Canon S5 IS，共2.7GB

◦ [<http://pacific.tilab.com/www/datasets/>]

11. Stanford Mobile Visual Search , Stanford Mobile Visual Search Dataset , 2011.2 , stanford提供 , 包括8种场景 , 如CD封面、油画等 , 每组相关图片都是采自不同相机 (手机) , 所有场景共500张图 ; 以后又发布了一个patch数据集 , Compact Descriptors for Visual Search Patches Dataset , 校对了相同patch。

◦ [<https://purl.stanford.edu/rb470rw0983>]

12. UKBench , UKBench database , 2006.7 , Henrik Stewénius在他CVPR06文章中提供的数据集 , 图像都为640x480 , 每个group有4张图 , 文件接近2GB , 提供visual words。

◦ [<http://vis.uky.edu/~stewe/ukbench/>]

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