YULE LI

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EDUCATION

National University of Defense Technology (985 Project), changsha, china
Master of Computer Vision and Machine Learning, Sep. 2014 - Jul. 2017
- Topic: Person detection in indoor scence based on deep learning
- Advisor: Prof. Yong Dou

Beihang University (985 Project), beijing, china
Bachelor of Science in Computer Science, Sep. 2010 - Jul. 2014
Weighted Average Score:84.15/100 Rank:37/217

RESEARCH EXPERIENCE

Institute of Computing Technology, Chinese Academy of Sciences Jul.2017-Present
Algorithm Engineer in Visual Information Processing and Learning group headed by Shiguang Shan
- Involved in the project of face-to-unlock application, which includes the face recognition, live detection and network compression. I'm responsible for the module of cross-modality face recoginition, which is the problem of face matching between visual images and near infrared images. I designed a network to match the requirements of model size and runtime. I also proposed a new loss function suitable for this problem to achieve a significant improvement in the validation dataset. The project is being actively promoted.
- Responsible for the training of face recognition network for massive identities. The training set includes up to one million identities and one hurdred million images. I have trained the network sucessfully based on triplet loss and imporve the accuracy with a larger margin on the evaluation set of multiple real-world scenararios. The sucess of training comes down to the following factors: 1) an implementation trick to make triplet loss to view about 4000 images in a single batch; 2) a good sample stragety consistent with the dataset; 3) a series of methods to speed up the training from 100 fps to 400 fps in single machine with 4 gpus. My trained model has been applied to serveral products and I was rewarded for the performance.

SenseTime Mar.2017-Jun.2017
Intern in the segmentation group mentored by Jianping Shi
- Portrait segmentation project aimed at segmenting the foreground of portrait from the image. I have designed a small network to segment the portrait in real time, which was sucessfuly applied to the internet entertainment products in mobile device.

Chinese University of Hong Kong Sep.2016-Feb.2017
Junior Research Assistant in Multimedia Laboratory mentored by Dahua Lin
- Video-based semantic segmentation targeted to ensure low latency while maintaining high segmentation quality. I developed a framework for video semantic segmentation, which incorporates two novel components: (1) a feature propagation module that adaptively fuses features over time via spatially variant convolution, thus reducing the cost of per-frame computation; and (2) an adaptive scheduler that dynamically allocate computation based on accuracy prediction. On both Cityscapes and CamVid, the proposed framework obtained competitive performance compared to the state of the art, while substantially reducing the latency, from 360 ms to 119 ms.

National University of Defense Technology Sep.2016-Feb.2017
Graduate Student, Parallel and Distributed Processing Key Laboratory, supervised by Yong Dou

- People head detection in crowded scenes. I first use a region proposal network to predict the bounding boxes and corresponding scores of multiple instances in the region. A local head classifier network is then trained to score the bounding box generated from the region proposal model. After that, I propose an adaptive fusion method by optimally combining both the region and local scores to obtain the final score of each candidate bounding box. My algorithm achieve superior performance on the challenge data set, which improves recall from 81%(best at that time) to 88% and AP from 78.4%(best at that time) to 85.3%.
- Weakly supervised people detection based on video in indoor scenes. The foreground is extracted from video using the background extraction method. I proposed a method based on cluster to segment the foreground into person instances as auxilary groundtruth label. Finally, I then use the method like RCNN to train the person detector. My proposed method achieve the accuracy above 80% on the four validation video covering different scenarios.

PUBLICATION

- Low-Latency Video Semantic Segmentation (Yule Li, Jianping Shi, Dahua Lin, accepted by CVPR 2018 as spotlight)
- Localized Region Context and Object Feature Fusion for People Head Detection (Yule Li, Yong Dou, Xinwang Liu, Teng Li, published in ICIP 2016)

HONORS&AWARDS

- National Endeavor Fellowship(9 out of 217 students in School of Computer Science and Engineering, Beihang University) (2011)
- National Endeavor Fellowship(9 out of 217 students in School of Computer Science and Engineering, Beihang University) (2012)
- Second prize of Blue Bridge Cup Beijing Division C language group (2014)
- Outstanding graduates of Beihang University (2014)

PROFESSIONAL SKILLS

- Good at c/c++, familiar with Python, familiar with Java, MATLAB, PHP
- Good at Tensorflow and Caffe
- Familiar with Linux system, familiar with shell script
- CET-6