Jiali Duan

Male 1991-11 Member of the Chinese Communist Party

East ZhongGuanCun Rd, HaiDian District, Beijing Tel：**17888816587** Email： davidsonic@163.com

PersonalPage: https://davidsonic.github.io/index/ GithubPage: https://github.com/davidsonic

Educational Background

University of the Chinese Academy of Sciences	**Institute of Automation**	**Master**	**National Laboratory of Pattern Recognition**	**2014.09—2017.07**
East China University of Science and Technology	**Institute of Information**	**Bachelor**	**Communication Engineering**	**2010.09—2014.07**

Research Interest

As a member of the National Laboratory of Pattern Recognition in the institute of automation of the University of the Chinese Academy of Sciences, my research interests include computer vision and pattern recognition especially about deep learning.

Professional Skills

1. **Able to put the use of basic machine learning skills such as Metric Learning, CART, SVM, AdaBoost and Apriori into the research filed of pattern recognition.**
2. **Tutored by well-known researcher StanZ.Li and Scliao, I've accomplished some computer vision algorithms based on traditional features and metric learning methods such as LOMO+XQDA,MLAPG,KISSME as well as NPD algorithms.**
3. **Assemble anti-spoofing interfaces and incorporate the algorithm into the project for Midea using Java JNI.**
4. **Capable of Deep Learning implementations in Face Detection, Landmark localization, Recognition, Age and Gender Estimation as well as general object detection. I've implemented and researched extensively in well-known methods such as deepid, fast-rcnn, faster-rcnn and SDM .**
5. **Able to program on platforms such as windows and linux , versed in latex, familiar with Clion, pycharm, visual studio2013, codeblocks, weka, and eclipse IDE.**
6. **Master C/C++, C#(ASP.NET), JAVA(SSH), matlab, python, familiar with 3rdparties such as opencv, scikit-learn, Caffe, and cuda-convnet, tensorflow and theano.**
7. **Ranked Second in 2014 English competition in University of the Chinese Academy of Sciences and participated in Beijing English Speaking Competition for University Students on behalf of my school. I got the Shanghai middle-level and high-level translation certificates when I was a university student.**

Experience

2016 07-2016-08 Reading and Implementing some of the CVPR 2016 and ECCV 2016 Paper

I've read and done some experiments on recent papers published in well-known CV conference such as CVPR and ECCV. Papers such as Structual-RNN, SSD, Loc-Net, YOLO and Joint-training of CNN-Cascade all give me a sense of excitement and inspiration, because the research field of object detection is developing so fast and there's a lot more to be explored in the future.

2016 06-2016-07 Preparing for CCBR & Toefl

This paper reviews the process of face detection and focuses on one aspect of them to accomplish a specialized study namely face classification. For the evaluation of different face classification algorithms, I've trained a Faster-RCNN network on WIDER FACE that achieves an AP of 97.14% on AFW. Proposals are extracted through this network to constitute a face/ non-face binary classification benchmark. Additionally, 6 baselines including 3 traditional feature extraction methods such as

LBP, MB-LBP, LOMO and NPD concatenated with DQT(deep quadratic tree) classifier are re-implemented.

For evaluation, I've also implemented a CNN based classifier and a Cascade-CNN classifier following the paradigm of CVPR 2015 paper *A Convolutional Neural Network Cascade for Face Detection*. The result shows that without post-processing the performance of face classification itself is still far from satisfactory, even with a powerful CNN method.

2016 03-2016-05 Preparing for ACCV

This paper is proposed especially to handle occlusions and pose variations for face detection under unconstrained settings. Pose-invariant component mapping is derived mathematically to get more uniform face patches for training and bootstrapping While symmetric component detection is proposed for the detection of symmetric component counterparts. Finally, a competition algorithm is implemented for aggregating visible components. The core idea is to reject false alarms during mergin(compete) while improving localization accuracy during integration(collaborate).

2016 02 Implement and improve the NPD algorithm used to detect faces in PAMI paper

Further enhancement about the C++ implementation about the proposed Normalized Pixel Difference feature, in order to facilitate corresponding android applications such as facial detections to be used for HuaWei, a mobile phone manufacturing company. I make further adaptations to the interfaces according to demands.

2016 02 Person Re-identification

I've done a series of PersonReId experiments involving LOMO, BoW features and XQDA, MLAPG, KISSME metric learning methods on Market-1501 database and made several improvements when evaluating single query and multi-query results. Associated codes were admitted to apply for a National Research Fund in my institute.

2016 01 Anti-Spoofing

Having done a series of experiments on anti-spoofing involving some traditional methods such as BLBP+CHIST features, MOIRE patterns, FFT features and also deep learning methods such as MLP classifiers. An amount of 8G MSU dataset used for model training was collected. Later, to develop the second edition of anti-spoofing application for Company Authen, Shearlet, HSC, OFM features were deployed.

2015 12 Face Attribute SDK Encapsulation

First version of Face Attribute(age, gender) android sdk application using traditional methods was implemented in this period, and I later deployed the web framework of caffe for demonstration, which is rather impressive. This project was mainly done for Midea, a furniture manufacturing company.

2015 09-11 Palm Recognition System

I built up a palm recognition system to extract palm print features on android, which could be uploaded to a C# server for processing, accomplishing a B/S application to recognize a person. This application was later used as a presentation demo in the company of my tutor.

2015 09 Google Android Face Detection into PC version

Re-implement the Google Android Face Detection and Landmark Detection interfaces, assemble the algorithm and the newly trained model into a PC version, laying a solid foundation for other projects such as anti-spoofing.

Essay

1. **Face Detection by By Aggregating Visible Components: submitted to ACCV, now in rebuttal stage**
2. **Face Classification: A Specialized Benchmark Study: submitted to CCBR**

Honor

2010-2014 Awarded with Second Prize Scholarship twice in East China University of Science and Technology(ECUST)

2010 Awareded with First Prize in English Competition held in East China University of Science and Technology

2012 Awared with First Prize in CUMCM (China Undergraduate Mathematical Contest in Modeling) Contest in

Shanghai.

2012 Awared with Second Prize in Mathematical Modeling Contest in China.

2013 Awarded with Honorable Mention in MCM/ICM Contest.

December, 2013 Awarded with First Prize in English Speaking Competition in ECUST and Third Prize in Shanghai.

March, 2014 Awarded with the Best Student Thesis Paper in East China University of Science and Technology.

May, 2015 Awarded with Excellent Student Prize in University of the Chinese Academy of Sciences.

May, 2016 Awarded with Excellent Student Prize in University of the Chinese Academy of Sciences.

Other Information

CET-4 (640) , CET-6（585）;

Toefl (Reading: 28, Listening: 27, speaking:23, writing:30 total: 108)

GRE (verbal: 156, Quantitive:162, AW: 4.0 total: 318)

Hobbies: swimming, table-tennis (got prize in the competition of my institute), tennis and soccer.