QiangGuo

Keywords: Quick Learner, Computer Vision, Deep Learning

♂ about

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languages

english
mandarin

programming

♥ Python
C++
Bash
Matlab
LaTeX

technical skills

Numpy, Sklearn
OpenCV
CMake
Caffe
Linux
Git

interests

I'm currently a Ph.D. candidate in National University of Defense Technology. I enjoy working on machine learning projects and keeping up with the latest development of deep learning. Specifically, I'm interested in mining structural information from images in an end-to-end way.

My Ph.D. thesis aims building an end-to-end scene text recognition system. My thesis work mainly focuses on integrating hidden Markov model (HMM), convolutional neural network (CNN) and long short-time memory (LSTM).

Besides scene text recognition, I also constantly find ideas from speech recognition, object detection, image description and other structure related problems.

education

2012-present **Ph.D.** candidate, Computer Vision — National University of Defense Technology
Thesis: End-to-end Scene Text Recognition with Deep Neural Networks

2009-2012 **M.Sc.** Computer Vision — National University of Defense Technology
Theis: Object Recognition with Counter Grouping and Shape Matching

2005-2009 **B.Sc.** System Engineering — National University of Defense Technology
Project: Embedded Automatic Remote Surveillance System with Multimedia Messaging Service

publications

article in peer-reviewed journal

Convolutional Feature Learning and Hybrid CNN-HMM Model for Scene Number Recognition
Qiang Guo, Fenglei Wang, Jun Lei, Dan Tu, Guohui Li
Neurocomputing (2015). Elsevier, 2015

international peer-reviewed conferences/proceedings

Memory Matters: Convolutional Recurrent Neural Network for Scene Text Recognition
Qiang Guo, Dan Tu, Guohui Li, Jun Lei
IVCNZ 2015 Image and Vision Computing New Zealand, 2015

Hybrid CNN-HMM Model for Street View House Number Recognition
Qiang Guo, Dan Tu, Jun Lei, Guohui Li
Computer Vision - ACCV 2014 Workshops on Deep Learning - Singapore, Singapore, November 1-2, 2014, 2014

projects

2015 **App: Paile** in development

The project is creating an artwork retrieval app that aid the user to get the artwork's extra related information by taking a photo. We scrawl the artwork images from the Internet and generating large amount of synthetic images varying on view angles, lighting conditions and resolutions. The retrieval model is based on CNN. After trained on these images, the model can give similar artworks with the one users take. My work in this project is implementing the image synthetization algorithm and building the CNN. The work is mainly based on Caffe.

2013 **Public Video Information Mining and Analysis System** The 2nd Intelligence Office of PLA General Staff Department

We design a system automatic scrawls and analysis videos with text from the Internet. The system extract and recognize human faces, then analysis the co-occurrence of people the user interests. In this project, I design and implement an face sequence analysis algorithm based on manifold learning. The algorithm represent the tracked face sequence into several linear sub-spaces and compare different face sequences according to a self defined set distance. The algorithm is implemented in Matlab and C++.