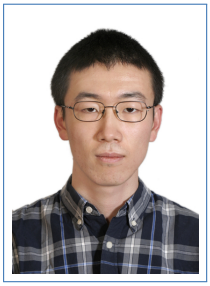
Biao Jia

Curriculum Vitae

University of North Carolina at Chapel Hill
Chapel Hill, NC
(+86)18910351655
rmqlife@gmail.com
github.rmqlife.io



"Action is eloquence."

Education

Sept.2016-Present **University of North Carolina at Chapel Hill**, *Chapel Hill*, Master of Science, specialized in Computer Science and Technology.

Sept.2010-July.2014 **Tsinghua University**, *Beijing*, B.Eng, specialized in Computer Science and Technology.

Relevant Skills

Advanced OpenCV, Java, C++, Python, Tesseract

Intermediate Matlab ,LaTeX, Bash, VHDL, Pascal

Basic Objective C, Arduino, Flask, PCB design

Employment History

July.2014-May.2015 **Landscape Mobile Tech Co.,Ltd.**, *Beijing*, Engineer and Leader of Algorithm Team.

Designed algorithm for two iOS apps: Sight and Screenshots.

- Built an iOS application dataset and a application classifier with interns.
- Enhanced the OCR rate on screenshots of tesseract by rebuilding models and rewriting functions.
- Designed an algorithm to grab the icons and pictures on the screenshots.

Research Experience

Spring.2014 **Pedestrian Segmentation after Detection**, *Diploma Project*, advised by Ai Haizhou.

Features

- Apply superpixel segmentation as an approach to preprocess the image as pre-segmentation.
- Propose a probabilistic model to compute the segmentation confidence map.
- Apply sparse coding method to the process of result refinement.

Experiments demonstrate that our method is much more efficient than the usual Graph-Cut based method.

Summer.2013 **Context based Binary Image Retrieval based on Visual Vocabulary**, *Hong Kong Polytechnic University*.

Features

- apply the algorithm to patent image retrieval.
- the recall rate is 5% higher than the best method(AHDH)

This work is going to submit to ICPR 2014.

Mar. 2013 **Handwriting Digits Recognition based on Neural Network and Restricted Boltzmann Machine**, *Artificial Neural Network*, advised by Prof. Zhu Xiaoyan.

Features

- back-probagation neural network
- restricted Boltzmann machine to pre-train the digits data
- directional line element as selected feature
- the precision rate is over 97%

Oct. 2012 **Viberation Frequency Computation of Elastic Object by Computer Vision Methods**, *Computer Vision*.

Practical work to support a research on electricity engineering. At first the task is to analyze a video of a vibrating composite insulator at a high rate with small amplitude, which can be hardly detected by human eyes. I found a method to extract the shape transformation of the insulator and compute the length and area of the shape, then the frequency can be easily compute by FFT(fast Fourier transform). Incidentally, all these work is finished in 2 hours.

Jun. 2012 **Digital Tone Tuner Design and Fabrication**, *Digital Logic Circuits*, cooperated with Ai Qingyao.

This is the final project for my Digital Logic Circuits course. We achieve

- listen and recognize a tune, then play it again.
- each part of the gadget was selected and purchased on our own
- compact printable circuit board design
- the core algorithm is implemented on a programmable logic device using VHDL.
- show the level of tune by an LED board, get the tune by a MIC and play it by a speaker

Awards

Nov. 2011 **Beijing Marathon**.

Sep. 2011 **Scholarship in Tsinghua University** , *3rd Place*.

Nov. 2008 **National Olympiad in Informatics in Provinces**, *1st Prize*.

Nov. 2007 **National Olympiad in Informatics in Provinces**, *1st Prize*.