BO, HAOHAN

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Education

McGill University (Montreal, QC, Canada), **MS Computer Science** 2017.09 - 2019.05

Fellowship: Mitacs Globalink Fellowship

Wuhan University (Wuhan, Hubei, China), **BS Software Engineering** 2013.09 - 2017.06

GPA : **3.76/4.0** (Major: **3.8/4.0**), AVERAGE: **89** (Major: **89.5**), RANK: **3.5%**

Scholarship: First Class Scholarship of Wuhan University (Top 5%)

Second Class Scholarship of Wuhan University (Top 10%)

Awards: Merit Student of Wuhan University

First Prize , 2014 Festival of Software Culture in Central China

Internship Experience

Computer Vision Intern SenseTime Group Limited 2016.10 - 2017.04

Intelligent Review of Images using Deep Convolutional Neural Network

This project ("http://master.sensetime.com/main/demo/np") aims to review images and evaluate whether they are legal using Deep Convolutional Neural Network, such as improved GoogleNet and Residual Network, with millions of training images.

>> Adopted improved Convolutional Pose Machines to generate ROIs and heatmaps of images.

>> Designed the attention and ROI based Neural Network for classification.

>> Trained the Neural Network using Caffe based on cost-sensitive strategy.

>> Designed and Implemented the Software Development Kit of our algorithm.

>> Achieved an accuracy of approximately 99% if we classify them only into two classes, namely, legal and illegal; achieved an accuracy of approximately 93% for four classes.

Research Assistant University of Waterloo 2016.07 - 2016.10

Programming and Testing Google Glass/Google Tango/Android Innovative Applications

Supervisor: **Shi Cao**

This application aims to remove objects that we do not want to show in reality and add new virtual objects through augmented reality and machine learning based on Google Tangle Tablet and Unity 3D.

>> Implemented the remove-algorithm based on the PointCloud provided by Google Tango.

>> Added new virtual objects through the three-dimensional position in the PointCloud.

Research & Project Experience

Laboratory of Bioinformation, Wuhan University

Core , Recognition of Relationships of Genes Using Deep Learning 2015.10 - 2016.07

This project is designed to use deep learning method to recognize the relationships between genes based on the sentences in open access database.

- >> Developed web spiders to crawl data that comprises sentences containing genes from biology papers in the Open Access Database using web spiders.
- >> Used Natural Language Processing Tools of Python, such as NLTK and genism, to tokenize sentences and convert tokens into word vectors based on the model of Word2Vec.
- >> Designed the structure of a Convolutional Neural Network and trained it using TensorFlow.
- >> Evaluated the model and achieved an accuracy of 85.2% on the gene relationship data set and 98.4% on the TREC question type dataset.

Core, *Intelligent Web Crawler* 2015-06 - 2016.07

This project aims to implement an intelligent web crawler framework based on Scrapy with bandwidth allocation.

- >> Designed the architecture of crawler and implemented a dozen website crawlers based on the Python packages, such as Requests, Scrapy, and BeautifulSoup
- >> Developed tools to clean data through SVM, Naive Bayes, and Convolutional Neural Network based on NLTK, Scikit Learn, and Tensorflow; achieved an accuracy of 86%

Personal Project, CAPTCHA Recognition Extension of Chrome 2015.09 - 2015.09

This extension is designed to recognize CAPTCHA of the educational administration management system website.

- >> Preprocessed all images using OpenCV and Python Image Library based on erosion.
- >> Obtained CAPTCHA from the front end using HTML5 and Javascript via AJAX, additionally using Django on the back end to respond to requests.
- >> Designed the Convolutional Neural Network based on VGG and made improvements using batch normalization; achieved an accuracy of 97%.
- >> Implemented the functions related to the calculation of GPA and average of selected courses.

Group Leader of Web Front-End, Ziqiang.studio 2013.09 - 2015.05

Ziqiang Studio is a type of Internet organization, which is managed by students and aims to produce excellent products that serve both students and teachers.

- >> Implemented the front-end of websites, such as the like landing page ("mobile.ziqiang.net.cn"), introduction page, and vote page ("topten.ziqiang.net.cn"), among others, using HTML5, CSS3, and jQuery.
- >> Managed all the projects of the front-end developer group.

Skills

Programming Languages: Python, Java, C++, JavaScript, SQL, C#, MATLAB

Frameworks: Caffe, Tensorflow, Unity 3D, Scrapy, jQuery

Other: HTML5, CSS3, Git, Linux

Extra Curricular Activities

Hackday, Programming Marathon in Central China 2014.05

- >> Implemented (within 24 hours) an extension of Chrome that aims to prevent people from substantially indulging in online shopping.