Zexi Han

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Education Background

Northeastern University, Boston, MA — Sept. 2016-Present
College of Computer and Information Science — Expected graduation: May 2018
Candidate for a Master of Science in Information Assurance
Major Courses: Computer System, Theory of Computation, Computer System Security, Information System Forensics, Applied Cryptography

Beijing University of Posts and Telecommunications, Beijing, China — Sept. 2012-Jun. 2016
Joint Program with Queen Mary University of London — GPA: 85.1/100
Bachelor of Science in Telecommunications Engineering, with the First Class Honor
Major Courses: Data Structures, Artificial Intelligence, Software Engineering, Linear Algebra, Probability Theory and Stochastic Process, Principles of Communications

Technical Knowledge

●Language	JAVA(major), MATLAB, Python, C
●System	Windows, Linux, macOS
●Machine Learning	Linear/Logistic Regression, SVM, (Convolutional) Neural Networks, kNN
●Deep Learning Tools	Caffe, Tensorflow, Torch

Research Experience

09/2016-11/2016 ***Student,*** **Network Intrusion Feature Representation and Detection with Support Vector Machine,** Boston, NU

●Detected network intrusions with machine learning approach
●Implemented a network intrusion system with support vector machine and tested its performance on NSL-KDD dataset

05/2016-07/2016 ***Research Intern,*** **Edge Sensing of Smart Watch,** Beijing, HCI Lab of Tsinghua University

●Discovered a brand new human computer interaction of smart watch – Edge Sensing
●By tapping from 4/6/8 directions of the edge, smart watch could identify the motion direction with its accelerator and respond with certain interaction in its android wear software
●Machine learning techniques were used to do the classification of accelerator's motion data

08/2015-06/2016 ***Research Intern,*** **Image Feature Representation and Rapid Retrieval with Deep Neural Networks,** National Laboratory of Pattern Recognition at the Institute of Automation of the Chinese Academy of Sciences

●Proposed a Three-stage Hybrid Image Retrieval Framework (Classification, Object Detection and Matching) to the task of same design product image retrieval with Deep Learning (CNN)

●Experimented on the ALISC 5 million dataset with 10 high level concepts and 676 sub concepts
●Achieved the best mAP of 57.5 % on makeup and good performance on tops, snacks and drinks
Achievements:
●**It was elected as the BUPT Outstanding Final Project (12/600+)**

Project Experience

02/2016-05/2016 ***Developer,*** **Person Active Track with Unmanned Aerial Vehicle,** BUPT
●Made tests and research of the Active Track flying mode of DJI PHANTOM 4
●Performed experiments on object recognition with deep learning approach
●Whether you are running, cycling, skiing and more, the unmanned aerial vehicle could use our computer vision based object recognition system to track you as you go.

10/2015-02/2016 ***Selected Representative,*** **Design & Build Winter Hack,** QMUL
●Attended the interesting and exciting robot tutorials given by the experts from the UK
●Teamed up with selected 10 British and 10 Chinese students to work on D&B Hack NAO Robot competition at EECS Electronics Lab of QMUL
●Sensor control and python based image recognition algorithms were implemented
Achievements:
●Our team won the **Winning Team** in the competition

03/2015-04/2015 *Contestant,* Trial for Design & Build Winter Hack in London, QMUL
●Designed and implemented four interesting ball games on the same theme but different styles in Java
●Created the interactive sphere game controller with ADXL345 digital accelerometer at the basis of Arduino to control the games
Achievements:
●Reached the chance to winter hack in London with the **first placing**

03/2015-06/2015 *Team Leader,* Parking System Design Project, BUPT
●Designed the layout and structure for the system in light of changes in the requirements
●Co-worked with team members in design, JAVA coding and unit test of software modules
●Adopted best practices of development to realize the initial vision, made the software development report

07/2014-09/2014 *Team Leader,* Electronic Keyboard Scientific Project, BUPT
●Designed circuits according to the functional objectives
●Got better acquainted with the single chip microcomputer
Achievements:
●Scored 97 and won the chance of participating in the trial for Design & Build Winter Hack in London (60/600+)

05/2014-05/2015 *Team Leader,* Development of MEBO Visualized Microenvironment Monitoring System, BUPT
●Completed the embedded system development and the network connection with multi-sensors
●Realized the visualization design of indoor microenvironment and innovative interaction design
●Received wide acclaim in the innovation exhibition and deputized for the team at innovation conference
Achievements:
●Scored A-Level in the check which won our team extra budget
●Won **The Second National Prize** at the innovation exhibition

Online Courses

10/2016-11/2016	**Data Science: Data to Insights,** MIT Professional Education & MIT Institute for Data, Systems, and Society (IDSS)
09/2016-11/2016	**Data Structures and Algorithms,** BITTIGER
07/2016-09/2016	**Machine Learning,** Coursera & Stanford University

Social & Extracurricular Activities

08/2014	Volunteered to work for the 13th China Internet Conference
03 /2014-04/2014	Took the Part-time work at Starbucks
09/2012-07/2013	Worked as Secretary of the Science and Technology Department, Student Union

Honors & Awards

06/2016	**First Class Honor Degree**
06/2016	**BUPT Outstanding Final Project**
02/2016	**Winning Team in Design & Build Winter Hack**
05/2015	**The Second National Prize In Innovation Project**
09/2012-09/2015	**The Third-Class Scholarship**

INTERESTS

- Karate
- Fine Arts