# Feichao Qian

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## APPLICATION INTEREST

To earn an MSc degree in Computer Science and acquire advanced knowledge and skills, particularly in the areas of Machine Learning, Data Mining, and Bioinformatics

## EDUCATION

**Nanjing University of Aeronautics and Astronautics (NUAA), Nanjing, China**

- Bachelor of Engineering, Major in Software Engineering Sept. 2011 – June 2015 (Expected)
- GPA **92.7**/100 in major, **91.4**/100 overall, Ranked **1st** out of 56 students

## AWARDS AND HONORS

Scholarship for Outstanding Students, NUAA, **Second Prize** September 2012

Advanced Mathematics Competition, Jiangsu Province, **First Prize** June 2012

Mathematical Contest in Modeling, NUAA, **Winning Prize** May 2013

Scholarship for Outstanding Students, NUAA, **Second Prize** September 2013

Contemporary Undergraduate Mathematical Contest in Modeling
Jiangsu Province, **First Prize** September 2013

Mathematical Contest in Modeling (MCM), Participant February 2014

Scholarship for Outstanding Students, NUAA, **Third Prize** September 2014

## ACADEMIC AND RESEARCH EXPERIENCE

**National Laboratory of Pattern Recognition (NLPR)** July – August 2014

**Institute of Automation, Chinese Academy of Sciences (CAS)**, Beijing

Research Intern (supervised by Prof. Chunhong Pan)

- Proposed a new method for regularizing large convolutional neural networks using a co-training framework
- Added stochastic masks after pooling layers, to determine whether the exact pooling region should be operated by max-pooling or average-pooling
- Conducted experiments on the MNIST dataset
- Submitted a patent application for this work

**College of Computer Science and Technology Nanjing University of Aeronautics and Astronautics**, Nanjing

*Project: SafeGuard*

**Team Leader**, National Training Programs of Innovation for Undergraduates June 2014 – Present

- Studies Android development, Firefox Adds-on development, and Cloud storage
- The output supports the Advanced Encryption Standard (AES, Rijndael)

*Project: Ufsman File System*

Course Design June 2014

- Supports multistage hybrid index as well as absolute path query and relative path query
- Transforms normal files into a standard unix file format (i.e., the disk image has five regions: superblock region, inode-table bitmap, inode table, data-area bitmap, and data area)
- Maps file path and inode number using the “namei” function

*Technical Report: Nulls in Oracle, SqlServer and Mysql*

**Course Design, First Author** June 2014

- Studied the historical background to evaluate queries in relational databases in the presence of null values
- Performed experiments on Oralce, SqlServer, and Mysql to identify problems while SQL operates with three-valued logic in query evaluation
- Highlighted risks and problems caused by Nulls and provided advice to avoid them

*Project: Tiny Compiler*

Course Design January 2014

- Studied the essential relationship and equal value transformation of Non-Finite Automat (NFA), Deterministic Finite Automat (DFA), and Gauge Finite Automat (GFA)
- Implemented syntactic analysis using SLR(1) parse list
- Constructed abstract syntax tree (AST) using Tiny language's Backus-Naur Form (BNF)
- Devised a semantics analyzer that performed static-type checking and generated three-address code
- Designed a code generator that transformed three-address code to assembly code

*Project: Pattern Recognition and Feature Selection*

Course Design October 2013

- Classified items using K-means clustering algorithm and Bayes classification
- Experimented on the Iris dataset
- Selected features based on the principle of minimum-in-cluster-distance and maximum-between-cluster-distance

*Project: Similarity Matrix Calculation in Protein-protein Interaction Identification (PPI)* January – March 2013

Undergraduate research project, supervised by Prof.Yun Niu

- Identified three types of features, including lexical features, phrases and dependency relations, which comprise the vector space model of PPI
- Extracted test data randomly from the PubMed database
- Performed shallow parsing using Apache OpenNLP and dependencies analysis using Stanford Parser

## PROFICIENCY

- GRE General split tests- Verbal: 150, Quantitative: 170, Analytical Writing: 3.0
- TOEFL IBT- Total: 101, Reading: 30, Listening: 23, Speaking: 20, Writing: 28
- COMPUTERS: Matlab, C++, C, Java, JavaScript

## HOBBIES AND INTERESTS

Military Chess, Tennis, Badminton, Snooker