

# Yichen (Eason) PAN

## Education

2013 – 2017 **The University of Nottingham Ningbo, China.**  
BSc Hons Computer Science

Average mark 85 (British education system, 1%, GPA: 4.0)

## Honors and Awards

- 08/2016 **Best project in seals competition**, *Alibaba Group.*  
For the best project out of 12 projects
- 05/2016 **Best group project and group leader**, *The University of Nottingham Ningbo China.*  
For the best year 3 group project in Computer Science department and the best group leader
- 03/2016 **UI design competition**, *The University of Nottingham Ningbo China.*  
Second award, 1%, Demo link
- 03/2016 **Outstanding student**, *The University of Nottingham Ningbo China.*  
For innovative and excellent academic contribution, 1%
- 12/2015 **Provost's Scholarship**, *The University of Nottingham.*  
For excellent academic performance, 15000RMB, 1.5%
- 12/2015 **2015 Ningbo Collegiate Programming Contest**, *The Education Committee of Ningbo.*  
First award
- 05/2015 **Outstanding Director of Organization**, *The University of Nottingham Ningbo China.*  
For outstanding leadership in social activities, 1%
- 12/2014 **Dean's Scholarship**, *The University of Nottingham.*  
For good academic performance, 6000RMB, 10%

## Papers

- 09/2016 **Learning to detect redundancies with word mover's distance based on distributed representations**, *Association for the Advancement of Artificial Intelligence (AAAI).*  
Applying
- 11/2016 **Reflections from Student-staff Collaboration to Develop an Open Educational Resource**, *Teaching, Assessment and Learning for Engineering (TALE).*  
Applying

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## Internship

05/2016 – **Taobao Team**, Alibaba Group, Algorithm Engineer.

- 09/2016
- Automatic mobile-based speaker verification system development
    - Realize and compare several state-of-art approaches and models, such as GMM-UBM, I-vector and JFA to realize speaker verification tasks in practice.
    - Optimize and come up with new algorithms to improve the performance.
    - Set up a deep learning based speaker verification system.
  - Security Rebot design and development under the funding from GNomeMagic Lab
    - Set up a face detection and verification system.
    - Applying for the national patent.

Technique *Java/C++/Node.js/MPI environment/Hadoop/Mongo DB*

05/2015 – **Big Data and Visual Analytics Lab Internship**, The University of Nottingham Ningbo China, 09/2015 Reserach assistant.

- Configuring and practicing a big data architecture (Hadoop and MPI) for social media data mining and novelty event detection.
- Collecting health-related data from social media websites (Twitter, Weibo).
- Conducting data pre-processing and cleaning work.
- Conducting data analysis (including keywords, sentiments, numerical analysis) using machine learning technology.
- Computer vision of big data.

Technique *Java/C++/Node.js/MPI environment/Hadoop/Mongo DB*

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## Skills

Basic Image Processing, Computer Vision, HCI, Data Visualization(Gephi), Python, Matlab

Intermediate Web technique, MEAN stack, Machine Learning, Natural Language Processing, Data Mining, Data analysis, R, Weka, Database Management, C/C++, Java, Design Pattern, Software Engineering, Agile Development

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## Research

09/2015 – **First Story Detection (FSD) with multiple approaches**, *coresearcher*.

- Present
- Based on the statistics language model, applied LSI and incremental TF-IDF to realize real-time FSD.
  - Optimized FSD by applying SVD to solve polysemy and synonymy problems and reduce noise.
  - Based on the neural network language model, applied the state-of-the-art word embeddings (word2vec) and earth mover's distance (EMD) in FSD.
    - Optimized the process of calculating EMD.
    - Applied EMD in clustering (including K-means, hierarchical clustering and etc.) to realize highly accurate FSD.
  - Applying for a paper in top international conferences.

Technique *Gensim(python)/Word2Vec/neural network/machine learning/statistics modeling*

05/2015 – **Sentiment analysis based on lexicon, supervised and ensemble learning**, Big Data and Visual 09/2015 Analytics Lab.

- Compared the difference in feature selection methods (Information gain, CHI and Document frequency).
- Optimized the lexicon based sentiment analysis:
  - Optimized the algorithm by considering intensifying words, negation words, position and punctuations.
- Compared and optimized the supervised approach using machine learning classification algorithms:
  - Compared the difference in feature weight algorithms (Presence, TF and TF-IDF).
  - Compared the difference in classification by using different supervised algorithms (including Multinomial Naive Bayes, KNN, C4.5, SVM and etc.) under different feature selection methods and feature weight algorithms.
- Classified sentiment using lexicon-based ensemble learning methods:
  - Generated features based on various lexicons.
  - Enhanced classification by using ensemble classifiers (including Boosting, Bagging and etc.).

02/2016 – **Data mining and visual analytics.**

Present ○ Data visualization using Gephi to explore small-world network.

03/2016 – **Deep learning**, Big Data and Visual Analytics Lab and Nvidia, team leader.

Present ○ Cooperating with Nvidia Tech. to expand DIGITS (deep learning open source package) for practical application.

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## Open-source Projects

01/2016 – **QuickNote (a scientific note-taking app)**, *team leader, scrum master, full-stack developer*,  
Present <http://quicknote.cc>.

- Product description:
  - Base on MEAN stack and node-webkit technique
  - Monitor and record users' activity data for data analysis and mining to find a scientific way of taking notes
  - Base on machine learning and NLP algorithms to classify notes to build a university ranged but major or topic specific knowledge database
  - Build a user-friendly notes and knowledge sharing environment to facilitate and manage innovation and organisational learning
  - Support a number of distinct features including powerful multimedia, drag and drop, cloud storage and sharing mechanism.
- Embraced and promoted the spirit of open-source.
- Efficiently led the development team to complete a full cycle of the software engineering process.
- Acquired the experience of being a MEAN full-stack developer.
- Highly understood the conflict and change management.
- Highly developed the understanding in the agile development.

05/2016 – **Yigong She (a voluntary worker platform)**, *team leader, full-stack developer*.

- Present ○ Product description:
- Base on LAMP stack technique
  - Offer two systems, one is for voluntary workers to register and arrange work and the other is for managers to manage the whole team.
- Promoted charity to students in the university.

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## Portfolio

**QuickNote**, <http://panatopos.com/QuickNote>.

- A cross-platform scientific note-taking application
- Open-sourced project, under license CC BY-SA.

**Super Delivery (UI design)**, <http://panatopos.com/SuperDelivery>.

- Won the first award in the university UI competition and highest mark in the HCI module.
- Developed deeper understanding in HCI, UI design and software engineering process.

**AngryBirds & Plants VS Zombies**, <https://github.com/PAN001/AngryBirds-PlantsVSZombies>.

- A computer game based on Cpp programming.

**Interactive games developed with Python**, <https://github.com/PAN001/Interactive-Game-using-Python>.

- Integrate the learning process into designing Python-based games.

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## Scores

GRE 330 (Verbal: 160, Quantitative: 170)

TOEFL 100 (Reading: 29, Listening: 26, Speaking: 20, Writing: 25)

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## Selected Courses at university

AE1DBS **Database Systems**, first class.

- In-depth knowledge of the relational models of database systems.
- Be able to considerable and effective use MySQL and MongoDB for practical usage.

- AE1WPS **Web Programming and Scripting**, first class.
- In-depth knowledge of the network protocols, layers and models.
  - Adept at designing static and dynamic websites and complete web applications using MEAN stack.
  - Skilled in using scripts to conduct web crawler and information retrieval.
- AE2ADS **Algorithms and Data Structures**, first class.
- In-depth knowledge of common data structures and algorithms.
  - Adept at applying knowledge into practical usage.
- AE2SAD **Software Application Development**, first class.
- In-depth knowledge of modern interface paradigms and design patterns.
  - Adept at designing and writing object-oriented programs and GUIs.
- AE2SEM **Software Engineering Methodologies**, first class.
- In-depth knowledge of modern software development strategy, change and conflict management.
  - Skilled in agile development and productive teamwork.
  - Skilled in software testing and quality assurance.

## Selected Completed online Courses

Johns Hopkins	<b>Exploratory Data Analysis</b>	Verified certification URL
Duke	<b>Data Analysis and Statistical Inference</b>	Verified certification URL
Stanford	<b>Mining Massive Datasets</b>	Certification URL
Stanford	<b>Cryptography</b>	Certification URL

## Workshop

- 09/2016 **UNNC Teaching & Learning Conference**, *speaker*, The University of Nottingham Ningbo China.
- Give a presentation on introduction to QuickNote and how it will be integrated into daily teaching and learning at the university.

## Organization

- 05/2014 – 05/2015 **Student Society Center (SSC)**, *The director of the secretariat department*, The University of Nottingham Ningbo China.
- Organize and managed the secretariat department.
  - Handled the public relations among the organization.
  - Regulated and supervised more than 80 societies and organizations at campus.
  - Organized and directed several university level activities, including: UNNC Open Day, Sports Festival, Art Month and etc.
  - Taking charge of editing and designing UNNC society books;
  - Highly developed the capability of the operation and coordination.
- 09/2014 – Present **Learning Community Fora (LCF)**, *LCF for Computer Science Department*, The University of Nottingham.
- Liaised with all students and represented as students to raise their issues and requests to the academic faculty.
  - Supported the improvement of academic teaching and learning.
  - Obtained the ability of communication and negotiation.
  - Highly developed the sense of responsibility and integrity.