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Yichen (Eason) PAN

Education

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

Average mark 85 (British education system, 1%, 1/46, GPA: 4.0)

Thesis *A Deep Learning Approach to Imgae-based Group-level Emotion Analysis*

Honors and Awards

12/2016 **Best Student of the Year Scholarship**, *The University of Nottingham*.
For the best student in each department

12/2016 **President's Scholarship**, *The University of Nottingham*.
For excellent academic performance, 30000RMB, 1%

11/2016 **China National Scholarship**, *Ministry of Education of The People's Republic of China*.
Highest scholarship in China; top 1% of all university students

11/2016 **The 2016 ACM-ICPC Asia Regional Contest Bronze Award**.

11/2016 **Dream Scholarship**, *The University of Nottingham*.
For innovative science and technology achievements, 1%

08/2016 **Best Project in Seals Competiton**, *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 School of Computer Science 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*.
Third 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%

Publications

Fu X., **Pan Y.**, Ch'ng, E., &Aickelin, Uwe., (under review). *Learning to detect redundancies with word mover's distance based on distributed representations.*

Towey D., **Pan Y.**, Qu Y., (under review). *Reflections from Student-staff Collaboration to Develop an Open Educational Resource.*

Internship

05/2016 – 09/2016 **Taobao Team**, Alibaba Group, Algorithm Engineer.

- Automatic mobile-based speaker verification system development.
  - Implemented and compared several state-of-art approaches and models, such as GMM-UBM, I-vector and JFA to realize speaker verification tasks in practice.
  - Optimized and came up with original algorithms to improve the performance, including varient weighting scheme in models.
  - Set up a deep learning based speaker verification system.
- Security Rebot design and development under the funding from GNome Magic Lab.
  - Set up a face detection and verification system.
  - Applied for the National Utility Model Patent.

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

- Configured and practiced a big data architecture (Hadoop and MPI) for social media data mining and novelty event detection.
- Collected health-related data from social media websites (Twitter, Weibo).
- Conducted data pre-processing and cleaning work.
- Conducted data analysis, including keywords, sentiments, numerical analysis using machine learning technology.

Skills

Basic Image Processing, HCI, Data Visualization, Python, Weka

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

Research

09/2016 – Present **A Deep Learning Approach to Imgae-based Group-level Emotion Analysis**.

- Undergraduate thesis
- Adopted Deep Learning techniques to realize effective image-based group-level emotion analysis.

09/2015 – Present **Redundancy Detection Based on Word Embedings**, *Undergraduate researcher*.

- 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.
- Proposed a novel redundant event filtering system based on the dense word embedding scheme (word2vec) incorporated with the distributed word mover's distance metric.
  - Optimized the process of calculating EMD.
  - Applied EMD in clustering (including K-means, hierarchical clustering and etc.) to realize highly accurate FSD.
- Submitted for a reserach paper.

05/2015 – 09/2015 **Twitter Sentiment Analysis**, Big Data and Visual 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.).
- Proposed a multinomial NaïĹve Bayes classifier with several emoji-related features, which outperforms the top system in the task of Sentiment Analysis in Twitter in SemEval-2013 in terms of averaged F scores.

02/2016 – 05/2016 **Data mining and visual analytics**.
- Data visualization using Gephi to explore small-world network.

Open-source Projects

01/2016 – Present **QuickNote (a scientific note-taking app)**, *team leader, scrum master, full-stack developer*, http://quicknote.cc.
- Application description:
  - Based on MEAN stack and node-webkit technique.
  - Monitored and recorded users' activity data for data analysis and mining to find a scientific way of taking notes.
  - Based on machine learning and NLP algorithms to classify notes to build a university ranged but major or topic specific knowledge database.
  - Built a user-friendly notes and knowledge sharing environment to facilitate and manage innovation and organisational learning.
  - Supported a number of distinct features including powerful multimedia, darag 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.
- Recognized at the provincial level as a Zhejiang Provincial Higher Education T&L Development Scheme Project.
- Received a UNNC Teaching and Learning grant two years in a row in recognition of its importance in the development of pedagogy at UNNC.

05/2016 – Present **Yigong She (a voluntary worker platform)**, *team leader, full-stack developer*.
- Product description:
  - Based on LAMP stack technique
  - Offered 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.

Portfolio

QucikNote, *http://quicknote.org*.
- Open-sourced project, under license CC BY-SA.

Super Delivery (UI design), *http://panatopos.com/SuperDelivery*.
- Won the second award in the university UI competition and highest mark in the HCI module.

AngryBirds & Plants VS Zombies, *https://github.com/PAN001/AngryBirds-PlantsVSZombies*.
- A desktop game based on Cpp programming.

Interactive games developed with Python, *https://github.com/PAN001/Interactive-Game-using-Python*.
- Integrated the learning process into designing Python-based games.

Scores

GRE 326 (Verbal: 159, Quantitative: 167)

TOEFL 105 (Reading: 29, Listenning: 26, Speaking: 23, Writing: 27)

Selected Courses at university

AE1DBS **Database Systems**, first class.
- In-depth knowledge of the relational models of database systems.
- Able to effectively 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 **Exploratory Data Analysis** *Verified certification URL*

Duke **Data Analysis and Statistical Inference** *Verified certification URL*

Stanford **Mining Massive Datasets** *Certification URL*

Stanford **Cryptography** *Certification URL*

Presentation

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.
- Organized 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.
- Took 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*, 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.