Zi Wang

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EDUCATION

Tsinghua University, Beijing, P.R. China   Sep. 2010 – Jul. 2014

B.S. Computer Science, expected July 2014

➢ GPA: 92.1/100.0 (rank 3 of 126 students)

➢ **Relevant Coursework**: Introduction to Machine Learning (Score: 100), Introduction to Artificial Intelligence (99), Stochastic Mathematical Methods (97), Introduction to Complex Analysis (100), Numerical Analysis (94), Calculus, Algebra and Geometry, Discrete Mathematics.

University of Southern California, Los Angeles, California, USA   Jul. 2013 – Aug. 2013

Viterbi Summer Undergraduate Research Experience Program

➢ Advisor: Prof. Fei Sha

PUBLICATIONS

➢ **Discriminative Non-negative Matrix Factorization for Single-Channel Speech Separation**

    Zi Wang, Fei Sha

    Pending for IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2014.

➢ **Scalable Inference for Logistic-Normal Topic Models**

    Jianfei Chen, Jun Zhu, **Zi Wang**, Xun Zheng, Bo Zhang

    Neural Information Processing Systems (NIPS), 2013.

RESEARCH EXPERIENCE

Discriminative NMF for Single-Channel Speech Separation   Jul. 2012 – Aug. 2013

Advisor: Fei Sha, Assistant Professor, University of Southern California

➢ Researched on Non-negative matrix factorization (NMF) method to solve 'cocktail party problem' (speech separation)

➢ Redid the single-channel speech separation using Sparse NMF presented by Mikkel N. Schmidt

➢ Inspired by the idea of Discriminative NMF raised by Fei Sha and presented the idea of Pairwise Discriminative NMF

➢ Derived the math part and wrote up the technical note for Discriminative NMF

➢ Implemented Discriminative NMF and Pairwise Discriminative NMF, and investigated into the result of experiments

Scalable Inference for Logistic-Normal Topic Models   Sep. 2012 – Jan. 2013

Joint working with Jianfei Chen, Xun Zheng; Mentor: Jun Zhu, Associate Professor; Advisor: Bo Zhang, Professor

➢ Studied the basic knowledge on Gibbs sampling algorithm, topic model and correlated topic model using variational method (vCTM), data augmentation, etc.

➢ Implemented a simple version of Gibbs sampling algorithm for LDA

➢ Implemented the perplexity computation part for our new Gibbs sampling algorithm to solve CTM (gCTM) and did a number of experiments on several data sets to compare gCTM with vCTM and LDA

➢ Designed and implemented the visualization part of gCTM using multiple visualizing tools

Baidu Movie Recommendation Systems and Algorithms Designing Contest   May 2013

➢ Ranked 10th place out of 900 competitors

➢ Won the Prize for the Most Innovative Design

Music Sheet Extractor   Sep. 2012 – Jan. 2013

Joint working with Jiabao Guo; Adviser: Ming-Xing Xu, Associate Professor

➢ Researched on audio signal processing, algorithms for pitch extraction, onset detection and music information retrieval

➢ Implemented several well-known pitch extraction algorithms such as YIN and analyzed the efficiency of them

- ➤ Turned pitch and onset information into MIDI files and then into music sheet using open source
- ➤ Launched a campus website that turns records of human humming to music sheet

Information Interaction between Android System and the Internet   Aug. 2012 – Sep. 2012

The best summer project in Java Program Design and Training; Adviser: Bin Xu

- ➤ Studied and built the programming and simulating environment for Android application development

- ➤ Designed and implemented an Android application which collects the data from all available sensors (GPS, light sensor, acceleration sensor, etc.), call records, message records and contact list to analyze user's habits to use the phone such as the most frequent places he/she uses the phone

- ➤ Implemented the download of user's register information from a website and the upload of pictures and the data collected by the application

- ➤ Utilized a set of stylish UI designed by myself using Photoshop

AWARDS AND HONORS

Google China Anita Borg Scholarship (Awarded to 3/126 students)	Sep. 2013
Friendship of Tsinghua - ESS Scholarship (Awarded to 3/126 students)	Oct. 2012
Friendship of Tsinghua - Tung OOCL Scholarship (Awarded to 3/126 students)	Oct. 2011
Shanghai Tomorrow of the Science and Technology Star (Top 0.01%)	May 2010
Mathematical Contest in Modeling (MCM) (2nd prize, Honorable Mention)	Feb. 2009

EXTRACURRICULAR ACTIVITIES

Wind Orchestra of Tsinghua University (also known as Tsinghua Military Band), Beijing   Sep. 2010 – Jul. 2014

- ➤ Best Clarinet player of 2012 - 2013

Swimming Competition of the Dept. of Computer Science and Technology, Beijing   Oct. 2012

- ➤ 1st place in Women's 50m Freestyle

Liaison Discipline of Student Association for Science and Technology in Tsinghua, Beijing   Feb. 2011 – Dec. 2011

SKILLS

- ➤ **Computer Skills**: C/C++, Matlab, R, Python, Java, C#, SQL, Linux, Vim, MS Office Suite, etc.
- ➤ **GRE:** Verbal Reasoning - 155, Quantitive Reasoning - 170, Analytical Writing - 3.5   Mar. 2012
- ➤ **TOEFL iBT:** Reading - 29, Listening - 28, Speaking - 24, Writing - 25, Total - 106   Dec. 2012