

Zi Wang

FIT 4-506, TSINGHUA UNIVERSITY
BEIJING 100086, CHINA
☎ +86 1520 1523 060
✉ ziwang.thu@gmail.com
🌐 www.zi-wang.com

Research Interest

Machine learning theory, algorithms and applications in related areas such as data mining, speech, visualization, natural language processing, and computer vision.

Education

2010 – 2014

B.S. in in Computer Science and Technology, **Tsinghua University** Beijing, China

○ **GPA:** 92/100, **Rank:** 2/129

○ Relevant courses: Stochastic Mathematical Methods (Probability Theory and Random Process) 97, Introduction to Machine Learning 100, Introduction to Artificial Intelligence 99, Introduction to Complex Analysis 100, Numerical Analysis 94, Calculus 96, Discrete Mathematics 96, Physics for Scientists and Engineers 99, Java Program Design and Training 100, The Principles of Signal Processing 100.

Publication

Z. Wang, F. Sha. Discriminative Non-Negative Matrix Factorization for Single-Channel Speech Separation. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2014.

J. Chen, J. Zhu, **Z. Wang**, X. Zheng, B. Zhang. **Scalable Inference for Logistic-Normal Topic Models. Neural Information Processing Systems (NIPS) 2013.**

Honors & Awards

Nov. 2013

Science and Innovation Scholarship, *awarded to 3% students.* Beijing, China

Sep. 2013

Anita Borg Scholarship, *Google China.* Beijing, China

Oct. 2012

Friendship of Tsinghua - ESS Scholarship, *awarded to 2% students.* Beijing, China

Oct. 2011

Friendship of Tsinghua - Tung OOCL Scholarship, *awarded to 3% students.* Beijing, China

May 2010

Tomorrow's Star of Shanghai's Science and Technology, *top 0.02%.* Shanghai, China

Feb. 2009

Mathematical Contest in Modeling (MCM), *Honorable Mention.* Bedford, MA

Research Experience

Mar. 2013 – now

Research Assistant, State Key Lab of Intelligent Tech. & Systems. Beijing, China

- Studied topic modeling, variational inference, Gibbs sampling and data augmentation.
- Implemented the prototype for the proposed algorithm; researched different evaluation methods, and compared perplexity results for variational LDA, Gibbs LDA, variational CTM, and Gibbs CTM.
- Created hierarchical visualizations for 1000 topics learned from New York Times with graphviz, C#, D3.js.
- Currently working on scalable inference algorithm for dynamic topic models.

Jul. – Aug. 2013

Visiting Undergraduate Researcher, University of Southern California. Los Angeles, CA

- Researched non-negative matrix factorization (NMF) with sparse coding for speech separation.
- Derived the algorithm and implemented the prototype for Discriminative NMF.
- Our method yields a 11.5% improvement on signal-to-noise ratio over traditional sparse NMF.

Dec. 2012 – May 2013

Research Assistant, Future Internet Technology Sub-interest Group. Beijing, China

- Competed in Baidu's Movie Recommendation Algorithm Contest representing the group.
- Implemented the recommendation algorithm based on Matrix Factorization and Random Forest.
- Analyzed the usefulness of data from previous ratings, social network, item tags and history viewing records.
- Top 10 of 900 competitors in Baidu Movie Recommendation Systems and Algorithms Designing Contest; won the Prize for the Most Innovative Design.

Selected Course Projects

Sep. – Dec. 2012

Music Sheet Extractor

A software converting records of human humming into music sheet via pitch extraction and onset detection.

Aug. – Sep. 2012

Information Interaction between Android System and the Internet

Android application collecting sensor data and showing analysis on user's phone using habits via cloud.

Sept. – Dec. 2012

Five Stage Pipeline CPU based on THCO MIPS Instruction Set

Built a computer via implementing the CPU, FLASH module, VGA module using a monitor, and PS2 interface.

Conferences & Workshops

Dec. 2013

Neural Information Processing Systems Conference (NIPS), *Poster*.

Lake Tahoe, Nevada

Dec. 2013

Women in Machine Learning Workshop (WiML), *Poster*.

Lake Tahoe, Nevada

Nov. 2013

Chinese Workshop on Machine Learning and Applications (MLA13), *Poster*.

Shanghai, China

May 2013

Baidu Workshop on Movie Recommendation Systems, *Oral*.

Beijing, China

Others

Feb. 2014 – now

IEEE/IEEE Signal Processing Society Membership

Dec. 2013

Volunteer of NIPS and WiML 2013

Lake Tahoe, Nevada

2010 – 2014

Wind Orchestra (Military Band) of Tsinghua University
Clarinet Player.

Beijing, China

Oct. 2012

Swimming Competition of the Dept. of Computer Science
1st place in Women 50m Freestyle

Beijing, China

Feb. 2011 – Dec. 2011

Liaison of Student Association for Science & Technology
Leader of 'Liaoyuan - Lenovo' Project with 40 members

Beijing, China

Skills

Computer

C/C++, Java, C#, JavaScript, Matlab, Python, HTML, CSS, XML, \LaTeX , Bash, VHDL, Verilog HDL, Assembly.

English

Mar. 2012

GRE, *Verbal Reasoning - 155, Quantitative Reasoning - 170, Analytical Writing - 3.5*

Beijing, China

Dec. 2012

TOEFL iBT, *Reading - 29, Listening - 28, Speaking - 24, Writing - 25, Total - 106*

Beijing, China