

# Xihan LI

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## EDUCATION

### **Peking University**, Beijing, China

M.S. Candidate in Computer Science and Technology (Machine Intelligence) Sept. 2016 – present  
Advisor: Prof. Yunhai Tong  
Focus: Reinforcement Learning, Network Mining, Natural Language Processing

### **National Chiao Tung University**, Hsinchu, Taiwan

Exchange Student, College of Electrical and Computer Engineering Feb. 2015 – Jun. 2015

### **Zhejiang University**, Hangzhou, Zhejiang, China

B.Eng. in Computer Science and Technology Sept. 2012 – Jun. 2016  
Minor Courses Certificate in Biological Science.  
Graduated with Chu Kochen College Honors.  
Cumulative GPA: 3.82 / 4.0; Major GPA: 3.88 / 4.0

## RESEARCH EXPERIENCE

### **Key Laboratory on Machine Perception (Ministry of Education)**, Peking University

Graduate Research Assistant (Advisor: Prof. Yunhai Tong) Sept. 2016 – present

- Developed an easy-to-extend diversity-promoting learning framework named MEMD (Multi-Encoder to Multi-Decoder) for conversational response generation, in which an auxiliary encoder and an auxiliary decoder are introduced to provide necessary training guidance without resorting to extra data or complicating network's inner structure.
- Paper accepted by *COLING 2018*.

### **Maching Learning Group**, Microsoft Research Asia

Research Intern (Advisor: Dr. Jiang Bian) Jan. 2018 – Oct. 2018

*Project: Resource Balancing in Complex Logistics Network with Multi-Agent Reinforcement Learning*

- Proposed a novel sophisticated multi-agents reinforcement learning approach to tackle the imbalance between the resource's supply and demand in logistic networks, which is one of the most important problems in real logistics domain. In particular, inspired by the externalities especially the interactions between resource agents, we introduce an innovative cooperative mechanism for state and reward design that resulting more effective and efficient transportation.
- Paper submitted to *AAAI 2019* as first author.

### **Psychological Health and Counseling Center**, Peking University

Research Assistant (Advisor: Prof. Kaiwen Xu) Mar. 2018 – present

- Proposed a three-level suicidal text recognition model with bayesian method and RNN, which is able to work with limited samples and model uncertainty of inference. This work will be applied in Peking University and other cooperated universities for timely detection and crisis intervention for students with high risk of suicide.
- Paper in progress for *NAACL 2019*.

### **Department of Computer Science**, University of California, Los Angeles

Research Assistant (Advisor: Prof. Yizhou Sun) Aug. 2017 – Sept. 2017

- Developed an incremental method for super large scale network embedding as well as methods to speed up training and maintain the quality of the embedding, which is viable to embed massive networks with billions of edges on a consumer-grade PC.

### **Institute of Microbiology**, Chinese Academy of Sciences

Research Assistant (Advisor: Prof. Yijian Yao) Jul. 2016

*Project: Chinese Species Red List - Fungus Volume*

- Implemented a kit of programs as an automatic pipeline that handle multiple gene sequences with BLAST, and predict taxonomy information by designated criteria, which significantly boosted the efficiency of genome-based species identification compared with previous manual analysis.
- Developed a multi-user online revising system for conservation status assessment of fungus in China.

**Institute of Artificial Intelligence**, College of Computer Science, Zhejiang University  
 Undergraduate Research Assistant (Advisor: Prof. Xiaogang Jin) May. 2014 – Jun. 2016  
*Project: Intelligent Recommendation Algorithm for Wikipedia*  
 ▪ Awarded Outstanding Undergraduate Thesis of Zhejiang University.

**Complex Laboratory of Innovation**, College of Life Science, Zhejiang University  
 Undergraduate Research Assistant (Advisor: Prof. Ming Chen) Mar. 2013 – Nov. 2013  
*Project: Detection of Thrombin with an Aptamer-based Macromolecule Biosensor*  
 ▪ Awarded Gold Medal & Best Experimental Measurement Approach (Asia) of iGEM 2013.

**PUBLICATIONS**

- Zou, Meng, **Xihan Li**, Haokun Liu, and Zhihong Deng. “MEMD: A Diversity-Promoting Learning Framework for Short-Text Conversation.” In *Proceedings of the 27th International Conference on Computational Linguistics (COLING 2018)*, 1281–1291. Santa Fe, New Mexico, USA: Association for Computational Linguistics, 2018.
- Wang, Jiasheng, et al. “Detection of thrombin with an aptamer-based macromolecule biosensor using bacterial ghost system.” *ACS synthetic biology* 3.12 (2014): 963-965.

**SELECTED AWARDS**

- Outstanding Undergraduate Thesis of Zhejiang University Jun. 2016
- **Outstanding Winner**, 2015 Interdisciplinary Contest in Modeling (ICM 2015) Apr. 2015
- **First Prize of Undergraduate Group**, 2014 Contemporary Undergraduate Mathematical Contest in Modeling Dec. 2014
- Excellent Student Award, Zhejiang University Dec. 2014
- Outstanding Student Leader Award, Zhejiang University Dec. 2014
- **First Prize**, 2014 Mathematical Contest in Modeling, Zhejiang University Jun. 2014
- **Gold Medal & Best Experimental Measurement Approach (Asia)**, 2013 International Genetically Engineered Machine competition (iGEM 2013) Oct. 2013
- **First Prize**, 2011 National Olympiad in Informatics in Provinces Dec. 2011

**TEACHING EXPERIENCES**

**Data Warehousing and Data Mining Technology**, Peking University  
 Teaching Assistant (Lecturer: Prof. Yunhai Tong) Spring and Summer Semester, 2017

- Designed detailed instruction and criteria of final course project. Directed the project class. Maintained server for course resources.
- Course project instruction page available on GitHub: <https://github.com/snowkylin/data-mining-pku>

**TECHNICAL CERTIFICATE**

**Google Developer Expert (GDE) in Machine Learning** Nov. 2017 – present

- One of the nine GDEs in Mainland China, which means experienced, recognized developers of Google technologies as well as outstanding professionals.
- Author of *A Concise Handbook of TensorFlow* (<https://tf.wiki>), a technical handbook supported by Google Developer Relations Team and TensorFlow Engineer Team, whose extended version will be published by *Posts & Telecom Press* in early 2019. Cooperated with Google to spread TensorFlow in China by lectures, tutorials and open-source code contributions.
- GDE Community Interviewer (July 2018 – present).
- Profile page: <https://developers.google.com/experts/people/xihan-li>

**TECHNICAL CONFERENCES**

**Google Developer Group DevFest 2018**, Shanghai Nov. 2018  
 Main instructor for TensorFlow codelab.

**Google Developers Experts Summit 2018**, Mountain View, USA Nov. 2018  
 Invited attendee with full travel support from Google.

**TensorFlow Day 2018 Beijing Codelab**, Beijing Sept. 2018  
 Main instructor.

**TensorFlow Dev Summit 2018**, Mountain View, USA Mar. 2018  
 Invited attendee with full travel support from Google.

**Google Developer Group DevFest 2017**, Beijing Nov. 2017  
 Speaker. Topic: Network Embedding with TensorFlow

**Machine Learning Camp Jeju 2017**, Jeju, Korea Jul. 2017  
 Participant. One of the 20 developers selected from over 600 applications worldwide of the one-month fully-funded AI workshop sponsored by Google & Kakao.

**Google I/O 2017 Extended**, Beijing May. 2017

Speaker. Topic: One-shot Learning with Neural Turing Machines

**SELECTED  
OPEN-SOURCE  
PROJECTS  
(STAR > 50)**

- snowkylin / TensorFlow-cn** Jan. 2018 – Aug. 2018  
An online handbook of TensorFlow based on Eager Execution mode.
- snowkylin / line** Aug. 2017  
TensorFlow implementation of LINE, an efficient network embedding algorithm.
- snowkylin / ntm** Jun. 2017 – Jul. 2017  
TensorFlow implementation of Neural Turing Machines (NTM), with its application on one-shot learning (MANN)
- snowkylin / rnn-handwriting-generation** Dec. 2016 – Jan. 2017  
Generating handwriting with LSTM, Mixture Gaussian & Bernoulli distribution and TensorFlow.
- \* See <https://github.com/snowkylin> for a full list with details.

**COMMERCIAL  
SOFTWARES**

- Course Management System of Student Association of Zhejiang University** Nov. 2014 – Jan. 2015
- Designed for students to choose courses offered by clubs and student associations in ZJU.
  - Licensed to Student Association Union of ZJU with extended development on <http://www.zjustjpkc.com/> with more than 3,000 students.
- Wilddream Art Gallery Platform** May. 2014 – present
- An easy-to-use, full-featured, mobile friendly online multiuser art gallery system with multilanguage support.
  - Licensed to WildDream Art on <http://www.wilddream.net> with more than 2,000 users.
  - With Computer Software Copyright Registration Certificate (Registration No: 2017SR111204) issued by National Copyright Administration of the PRC.

**COMPUTER  
SKILLS**

- Programming Languages: Python, MATLAB,  $\text{\LaTeX}$ , C++, Pascal, Java, PHP, Bash, C, Verilog, JavaScript, CSS, HTML, SQL, XML
- Frameworks: TensorFlow, NumPy, scikit-learn, Android SDK, OpenCV, OpenGL, LLVM, Arduino, ThinkPHP, Bootstrap

**CAMPUS AND  
SOCIAL  
ACTIVITIES**

- Psychological Health and Counseling Center, Peking University**
- Trainee Psychological Consultant Feb. 2018 – present
- Volunteered front door service. Assisted senior consultants. Attended supervision and professional skills training. (with Third Level / Senior Skill Level Occupational Qualification Certificate of Psychological Consultant issued by MOHRSS of the PRC)
- Animal Protector Association, Zhejiang University (ZJUAPA)**
- 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> President Sept. 2013 – Mar. 2016
- Established the regulation of association, leded numerous animal rescues and activities, revived the association from 5 remaining people to one of the most influential associations in ZJU with 5 departments, more than 40 staffs and more than 150 members, which was awarded Outstanding Student Association of ZJU in 2014.
  - Initiated the course "Introduction to Animal Protection: Theory and Practice" in 2014 and 2015 as main instructor, which was awarded First Prize by Student Association Union of ZJU. Invited guest lectures in Zhejiang Museum of Natural History and University of Science and Technology of China.
  - Awarded Outstanding Student Leader of ZJU in 2014, selected as "the guardian of animals who left a new association and the spirit of truth-seeking and pragmatic to ZJU" by ZJU News in Graduation 2016 Column.
- Wildlife Conservation Society (WCS)**
- Intern Student Jul. 2015 – Sept. 2015
- Supported on webpage development. Writing surveys and newsletters about wildlife trade.
- Mainland China Student Union, National Chiao Tung University**
- Director of Planning Feb. 2015 – Jun. 2015
- Planned and directed activities for students from Mainland China, including a grand evening party for over 200 students from 20 different universities.
- Zhejiang Small Animal Protection Association, Zhejiang Province, China (ZJSAPA)**
- Web Maintenance Engineer Mar. 2013 – present
- Full responsibility for all hardware & software development and maintenance of the association's website (<http://www.zjsapa.org>). Volunteer work.

[CV compiled on 2018-10-27 for general use]