

Frank F. Xu

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Research Interests

Natural language processing, data mining, machine learning

Education

Shanghai Jiao Tong University

M.SC. IN COMPUTER SCIENCE

Shanghai, China

Sep. 2016 - Present

- Research Field: Natural language processing, text mining, knowledge discovery, spatial-temporal data mining
- Advisor: Prof. Kenny Q. Zhu

Shanghai Jiao Tong University

B.ENG. IN COMPUTER SCIENCE, HONOR DEGREE (IEEE HONORED CLASS)

Shanghai, China

Sep. 2012 - Jun. 2016

- Thesis: *Traffic Prediction for Urban Planning*
- **Best Bachelor's Thesis Award (Top 1% in SJTU)**
- Advisor: Prof. Kenny Q. Zhu

Honors & Awards

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|------|---|------|
| 2016 | Best Thesis Award in Bachelor's Thesis Defense (Top 1%) | SJTU |
| 2015 | Excellence Award in <i>DataBang</i> Data Innovation Contest | SJTU |
| 2015 | Second Place in EMC Smart Campus Open Data Contest | SJTU |

Professional Experience

Data Mining Research Group, University of Illinois at Urbana-Champaign

Urbana, IL

VISITING RESEARCHER

Jun. 2017 - Dec. 2017

- Advisor: Prof. Jiawei Han (UIUC), Prof. Xiang Ren (USC)
- Worked on various information extraction tasks such as relation extraction, sequence labeling, event extraction, open information extraction, etc.
- Research papers accepted by WSDM 2018, AAAI 2018, KBCOM 2018, WWW 2018.

ADAPT Lab, Shanghai Jiao Tong University

Shanghai, China

RESEARCH ASSISTANT

Oct. 2015 - Present

- Advisor: Prof. Kenny Q. Zhu
- Working on computational social science, information extraction, text mining and traffic prediction, with papers submitted to various venues.

Baixing.com

Shanghai, China

SOFTWARE DEVELOPER INTERN

Aug. 2015 - May. 2016

- Developed open APIs, crawlers, backend tools.
- Designed algorithm modules to prevent spam and inappropriate posts, e.g. posts filtering and classification, image identification.

IIOT Lab, Shanghai Jiao Tong University

Shanghai, China

UNDERGRADUATE RESEARCH ASSISTANT

Jan. 2015 - Jul. 2015

- Advisor: Prof. Xinbing Wang
- Contributed to academic crawler, paper topic modeling, search algorithms and infrastructure for *AceMap*, an academic search system.

OMNILAB, Shanghai Jiao Tong University

Shanghai, China

UNDERGRADUATE RESEARCH ASSISTANT

Jun. 2014 - Dec. 2014

- Advisor: Prof. Yaohui Jin
- Contributed to open data platform and data mining projects from web crawlers to data analysis and visualizations.

Professional Service

PROGRAM COMMITTEE

CONFERENCE REVIEWER

AAAI Conference on Artificial Intelligence (AAAI 2016-17)

ACM International Conference on Information and Knowledge Management (CIKM 2017)

ACM International Conference on Web Search and Data Mining (WSDM 2018)

The Web Conference (WWW 2018)

ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2018)

Teaching Experience

2016 **Teaching Assistant**, Database System Technology (SE305), in English

SJTU

Publication

** indicates equal contribution*

TEXT MINING

Mining Cross-Cultural Differences and Similarities in Social Media

Under review

Mining Cross-Cultural Differences of Named Entities: A Preliminary Study

Frank F. Xu*, Bill Y. Lin*, Kenny Q. Zhu.

Appeared on First Workshop on Knowledge Base Construction, Reasoning and Mining (KBCOM) at WSDM, 2018

INFORMATION EXTRACTION

Exploring Distantly Supervised Named Entity Recognition

Under review

ExtRA: A Framework for Extracting Prominent Review Aspects from Customer Feedback

Under review

Open Information Extraction with Global Structure Constraints

Qi Zhu, Xiang Ren, Jingbo Shang, Yu Zhang, Frank F. Xu, Jiawei Han.

In Proceedings of The Web Conference (WWW Poster), 2018

Empower Sequence Labeling with Task-Aware Neural Language Model

Liyuan Liu, Jingbo Shang, Frank F. Xu, Xiang Ren, Huan Gui, Jian Peng, Jiawei Han.

In Proceedings of Thirty-second AAAI Conference on Artificial Intelligence (AAAI), 2018

ReQuest: Indirect Supervision for Relation Extraction using Question-Answer Pairs

Zequ Wu, Xiang Ren, Frank F. Xu, Ji Li, Jiawei Han.

In Proceedings of The 11th ACM International Conference on Web Search and Data Mining (WSDM), 2018

Commonsense Located Near Relation Extraction from Large Text

Frank F. Xu*, Bill Y. Lin*, Kenny Q. Zhu.

Appeared on 6th Workshop on Automated Knowledge Base Construction (AKBC) at NIPS, 2017

Multi-channel BiLSTM-CRF Model for Emerging Named Entity Recognition in Social Media

Frank F. Xu*, Bill Y. Lin*, Zhiyi Luo, Kenny Q. Zhu.

In Proceedings of the 3rd Workshop on Noisy User-generated Text (W-NUT) at EMNLP, 2017

URBAN COMPUTING

Transfer Learning for Traffic Speed Prediction: A Preliminary Study

Frank F. Xu*, Bill Y. Lin*, Eve Q. Liao, Kenny Q. Zhu.

In the Proceedings of SmartIoT 2018 Workshop: AI enhanced IoT data processing for Intelligent Applications at AAAI, 2018

Cross-region Traffic Prediction for China on OpenStreetMap.

Frank F. Xu, Bill Y. Lin, Qi Lu, Yifei Huang and Kenny Q. Zhu.

In the Proceedings of the 9th ACM SIGSPATIAL International Workshop on Computational Transportation Science, 2016

Traffic Prediction for Urban Planning

Frank F. Xu

Bachelor's Thesis (Best Thesis Award, Top 1%), 2016