Liyuan Liu

"I saw the angel in the marble and carved until I set him free. - Michelangelo"

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RESEARCH INTEREST

Mining knowledge from unlabeled text & using such knowledge to enhance natural language processing/understanding.

EDUCATION

UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN (UIUC)   *Illinois, USA*
PH.D. IN COMPUTER SCIENCE, EXPECTED JUNE. 2021   *September 2016 – Present*
- Advisor: Prof. Jiawei Han

UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA (USTC)   *Hefei, China*
B.E. IN COMPUTER SCIENCE   *September 2012 – June 2016*
- Advisor: Prof. Linli Xu
- Shortlisted for the Guo Moruo scholarship and graduated summa cum laude.

EXPERIENCE

Data Mining Group @ UIUC   *Urbana, USA*
RESEARCH ASSISTANT, ADVISOR: PROF. JIAWEI HAN   *September 2016 – PRESENT*

D365 AI @ Microsoft   *Bellevue, USA*
RESEARCH INTERN, ADVISOR: DR. WEIZHU CHEN   *May 2019 – Auguest 2019*

AllenNLP @ AI2   *Seattle, USA*
RESEARCH INTERN, ADVISOR: DR. MATTHEW E PETERS   *May 2018 – Auguest 2018*

Social Computing Group @ MICROSOFT RESEARCH ASIA   *Beijing, China*
RESEARCH INTERN, ADVISOR: DR. RUIHUA SONG   *July 2015 – May 2016*

Laboratory of Semantic Computing and Data Mining @ USTC   *Hefei, Anhui*
UNDERGRADUATE RESEARCHER, ADVISOR: PROF. LINLI XU   *October 2013 – June 2015*

National Student Innovation Tranining Program @ USTC   *Hefei, Anhui*
PROJECT LEADER, ADVISOR: PROF. KAI XING   *April 2013 – May 2015*

PUBLICATIONS

* indicates equal contribution.

[1] **Liyuan Liu**, Haoming Jiang, Pengcheng He, Weizhu Chen, Xiaodong Liu, Jianfeng Gao, and Jiawei Han. "On the Variance of the Adaptive Learning Rate and Beyond." *arXiv preprint arXiv:1908.03265 (2019).*

[2] Zihan Wang*, Jingbo Shang*, **Liyuan Liu***, Lihao Lu, Jiacheng Liu and Jiawei Han. "CrossWeigh: Training Named Entity Tagger from Imperfect Annotations" in *Proc. of 2019 Conf. on Empirical Methods in Natural Language Processing (EMNLP'19), to appear.*

[3] Qinyuan Ye*, **Liyuan Liu***, Maosen Zhang, and Xiang Ren. "CrossWeigh: Training Named Entity Tagger from Imperfect Annotations" in *Proc. of 2019 Conf. on Empirical Methods in Natural Language Processing (EMNLP'19), to appear.*

[4] **Liyuan Liu**, Jingbo Shang, and Jiawei Han. "Arabic Named Entity Recognition: What Works and What's Next" in emphProc. of the 4th Arabic Natural Language Processing Worksho (WANLP 2019), co-located with ACL 2019, Florence, Italy, July 2019. (Oral).

[5] Ying Lin, **Liyuan Liu**, Heng Ji, Dong Yu, and Jiawei Han. "Reliability-aware Dynamic Feature Composition for Name Tagging" in *Proc. of the 57th Annual Meeting of the Association for Computational Linguistics (ACL' 19), Florence, Italy, Jul. 2019. (Oral, Long)*.

[6] Jingbo Shang, Jiaming Shen, **Liyuan Liu**, and Jiawei Han, "Constructing and Mining Heterogeneous Information Networks from Massive Text", Conference tutorial at *2019 ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD'19), Anchorage, AK, Aug. 2019*.

[7] Yujin Yuan, **Liyuan Liu**, Siliang Tang, Zhongfei Zhang, Yueting Zhuang, Fei Wu, and Xiang Ren. "Cross-relation Cross-bag Attention for Distantly-supervised Relation Extraction" in *Proc. of 2019 AAAI Conf. on Artificial Intelligence (AAAI'19), to appear*.

[8] Jingbo Shang*, **Liyuan Liu***, Xiaotao Gu, Xiang Ren, Teng Ren, and Jiawei Han "Learning Named Entity Tagger using Domain-Specific Dictionary." in *Proc. of 2018 Conf. on Empirical Methods in Natural Language Processing (EMNLP'18), Brussels, Belgium, Oct. 2018*.

[9] **Liyuan Liu**, Xiang Ren, Jingbo Shang, Jian Peng, and Jiawei Han. "Efficient Contextualized Representation: Compressing Language Models for Sequence Labeling." in *Proc. of 2018 Conf. on Empirical Methods in Natural Language Processing (EMNLP'18), Brussels, Belgium, Oct. 2018. (Oral, Long)*.

[10] **Liu, Liyuan**, Jingbo Shang, Frank Xu, Xiang Ren, Huan Gui, Jian Peng, and Jiawei Han. "Empower Sequence Labeling with Task-Aware Neural Language Model." in *Proc. of 2018 AAAI Conf. on Artificial Intelligence (AAAI'18), New Orleans, LA, Feb. 2018*.

[11] **Liyuan Liu***, Xiang Ren*, Qi Zhu, Shi Zhi, Huan Gui, Heng Ji, and Jiawei Han. "Heterogeneous Supervision for Relation Extraction: A Representation Learning Approach.", in *Proc. of 2017 Conf. on Empirical Methods in Natural Language Processing (EMNLP'17), Copenhagen, Denmark, Sept. 2017. (Oral, Long)*.

[12] Chao Zhang, **Liyuan Liu**, Dongming Lei, Quan Yuan, Honglei Zhuang, Tim Hanratty, and Jiawei Han, "TrioVecEvent: Embedding-Based Online Local Event Detection in Geo-Tagged Tweet Streams", in *Proc. of 2017 ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD'17), Halifax, Nova Scotia, Canada, Aug. 2017. (Oral, Long)*.

[13] Qi Zhu, Hongwei Ng, **Liyuan Liu**, Ziwei Ji, Bingjie Jiang, Jiaming Shen, and Huan Gui. "Wikidata Vandalism Detection—The Loganberry Vandalism Detector at WSDM Cup 2017", in *WSDM Cup 2017 Notebook Papers (WSDM Cup' 17), Feb. 10, Cambridge, UK*.

[14] **Liyuan Liu**, Linli Xu, Zhen Wang, and Enhong Chen, "Community Detection Based on Structure and Content: A Content Propagation Perspective", in *Proc. of 2016 Int. Conf. on Data Mining (ICDM'16), Atlantic City, NJ, USA, Nov. 2015. (Oral, Long, AC rate: 18.1%)*

HONORS & AWARDS

Highlights

Winner of the Topcoder Arabic NER Challenge   2018
- **ranked 1st among 137 registrant and 220 submissions.**

Guo Moruo Scholarship   2015
- **the Highest Honor for USTC Undergraduate Students.**

Google Excellent Scholarship   2015
- **only 58 Graduate and Undergraduate Students Shortlisted.**

Scholarships

Samsung Scholarship   2015
Tencent Innovative Scholarship   2014

Scholarship for Outstanding Students	2013
Seagate Scholarship	2013
Scholarship for Outstanding New Students	2012

Awards

| DMG Research Honorable Mention Award | 2018 |
| 3th Place at WSDM Cup 2017 | 2017 |

- Vandalism Detection Task.

| DMG Research Honorable Mention Award | 2017 |
| ICDM 2015 Travel Award | 2015 |

HIGHLIGHT PROJECTS

RAdam	954 stars, 130 folks.
LM-LSTM-CRF	651 stars, 186 folks.
AutoNER	205 stars
LD-Net	139 stars
Torch-Scope	20k+ downloads.

SKILLS

Programming	C, C++, JAVA, Python, Lua, Matlab
DL Packages	Torch, PyTorch
Languages	English, Chinese

PROFESSIONAL SERVICE

PC Member	EMNLP2019, PAMI (since 2019), LLD2019, ACL2019, NAACL2019, AAAI2019, EMNLP2018
External Reviewer	ACL2018, NAACL2018, WWW2018, AAAI2018, KDD2018, ACL2017, EMNLP2017, KDD2017