CHENGYU WANG

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East China Normal University, Shanghai, 200062, China

EDUCATION

Ph.D. in Software Engineering (Data Science and Engineering)   *Sept. 2015 – June 2020*

School of Computer Science and Software Engineering, **East China Normal University** (ECNU)

Supervisors: Prof. **Xiaofeng He** and Prof. **Aoying Zhou**

Research interests: taxonomy induction, knowledge extraction, knowledge graphs, lexical semantics, natural language understanding, etc.

Won **National Scholarship for PhD Students** twice (2016, 2017)

B.Eng. in Software Engineering   *Sept. 2011 – June 2015*

Software Engineering Institute, **East China Normal University** (ECNU)

Overall GPA: 3.77/4.0, Major GPA: 3.84/4.0

Won **National Scholarship** three times (2012, 2013, 2014) and the honor of **Shanghai Outstanding Graduate** (2015)

PH.D. THESIS RESEARCH PROJECTS

Learning hypernymy relations for Chinese taxonomy construction   *May 2016 – Present*

- Design word embedding based iterative and transductive learning algorithms to predict Chinese hypernymy ("is-a") relations among term pairs. Construct a large-scale Chinese taxonomy from user generated categories. (**KAIS**, **COLING** 2016, **ACL** 2017)

- Design a multi-task word embedding projection model integrated with deep neural language models for supervised distributional hypernymy detection. (**ACL** 2019 (submitted))

- Survey 100+ recent papers on state-of-the-art techniques for hypernymy relation extraction and taxonomy construction. (**EMNLP** 2017)

Cross-lingual/Cross-domain relation learning via knowledge transfer   *May 2018 – Present*

- Propose a coupled adversarial learning framework to improve hypernymy relation learning based on the knowledge in existing taxonomies. (**AAAI** 2019)

- Design transfer learning algorithms for cross-lingual hypernymy relation prediction over low-resourced languages with very limited training data. (**WWW** 2019)

- Propose a relation embedding model in the hyperspherical space, for multi-way classification of different types of lexical relations. (**ACL** 2019 (submitted))

Knowledge extraction and understanding for Chinese short texts   *Jan. 2017 – Present*

- Propose an unsupervised graph-based approach to harvest relational textual patterns and to extract relations from Chinese short texts. (**TKDE**, **EMNLP** 2017)

- Design a three-layer data-driven system to extract noun-based relations from Chinese noun phrases, under the framework of Open Information Extraction. (**TKDE** (submitted))

- Predict the idiomaticity of Chinese noun compounds based on linguistic knowledge and representation learning for natural language understanding. (**ACL** 2019 (submitted))

Entity linking and link analysis of large-scale semantic networks   *Mar. 2015 – June 2016*

- Present a two-stage ranking and classification method to detect linking errors in homogeneous information networks, with case studies of English and Chinese Wikipedia. (**CIKM** 2016)

- Propose an exploratory entity linking algorithm to perform entity linking and new entity detection in heterogeneous information networks, with a case study of DBLP. (**KAIS**)

SELECTED NON-THESIS PROJECTS

Data-driven analysis of online educational public opinions *Dec. 2014 – Dec. 2016*
Joint work with the National Institute of Educational Policy Research, ECNU

- Participate in developing an educational public opinion analysis platform based on massive Web-scale educational data. Hotspots in educational public opinions are detected and analyzed. Popular Web opinions towards these hotspots are summarized.

- Participate in publishing two books in Chinese (i.e., "Annual Report of Chinese Online Educational Public Opinion Analysis" series in 2014 and 2015) based on educational public opinion analysis.

Taxi pick-up points recommendation based on large trajectory data *July 2013 – Dec. 2013*

- Participate in developing a distributed spatio-temporal data analysis platform to process large-scale traffic trajectory data on Hadoop clusters.

- Design a location-based taxi pick-up point recommender based on the waiting time prediction for vacant taxis. Various regression models and the non-homogeneous Poisson process are employed.

SELECTED PUBLICATIONS

Manuscripts in Submission:

1. **Chengyu Wang**, Xiaofeng He, Aoying Zhou. *Commonsense Relation Extraction from Chinese Noun Phrases.* submitted to **TKDE**

2. (Anonymous Author List). *Revisiting Distributional Models for Supervised Hypernymy Detection: A Multi-task Projection Approach with Bidirectional Residual Estimation.* submitted to **ACL** 2019

3. (Anonymous Author List). *Relational and Compositional Representation Learning for Idiomaticity Prediction of Chinese Noun Compounds and Its Applications.* submitted to **ACL** 2019

4. (Anonymous Author List). *SphereRE: Distinguishing Lexical Relations with Hyperspherical Relation Embeddings.* submitted to **ACL** 2019

Refereed Journal Articles:

1. **Chengyu Wang**, Xiaofeng He, Aoying Zhou. *HEEL: Exploratory Entity Linking for Heterogeneous Information Networks.* **KAIS** (Published Online)

2. **Chengyu Wang**, Yan Fan, Xiaofeng He, Aoying Zhou. *Decoding Chinese User Generated Categories for Fine-grained Knowledge Harvesting.* **TKDE** (Published Online)

3. **Chengyu Wang**, Yan Fan, Xiaofeng He, Aoying Zhou. *Predicting Hypernym-Hyponym Relations for Chinese Taxonomy Learning.* **KAIS** 58(3): 585–610 (2019)

4. **Chengyu Wang**, Xiaofeng He, Aoying Zhou. *Event Phase Oriented News Summarization.* **WWWJ** 21(4): 1069–1092 (2018)

5. **Chengyu Wang**, Guomin Zhou, Xiaofeng He, Aoying Zhou. *NERank+: A Graph-based Approach for Entity Ranking in Document Collections.* **FCS** 12(3): 504–517 (2018)

Refereed Conference Papers:

1. **Chengyu Wang**, Yan Fan, Xiaofeng He, Aoying Zhou. *A Family of Fuzzy Orthogonal Projection Models for Monolingual and Cross-lingual Hypernymy Prediction.* **WWW** 2019 (Accepted)

2. **Chengyu Wang**, Xiaofeng He, Aoying Zhou. *Improving Hypernymy Prediction via Taxonomy Enhanced Adversarial Learning.* **AAAI** 2019 (Accepted)

3. **Chengyu Wang**, Yan Fan, Xiaofeng He, Aoying Zhou. *Learning Fine-grained Relations from Chinese User Generated Categories.* **EMNLP** 2017, pp. 2577–2587

4. **Chengyu Wang**, Xiaofeng He, Aoying Zhou. *A Short Survey on Taxonomy Learning from Text Corpora: Issues, Resources and Recent Advances.* **EMNLP** 2017, pp. 1190–1203

5. **Chengyu Wang**, Junchi Yan, Aoying Zhou, Xiaofeng He. *Transductive Non-linear Learning for Chinese Hypernym Prediction.* **ACL** 2017, pp. 1394–1404

6. **Chengyu Wang**, Xiaofeng He. *Chinese Hypernym-Hyponym Extraction from User Generated Categories.* **COLING** 2016, pp. 1350–1361

7. **Chengyu Wang**, Rong Zhang, Xiaofeng He, Aoying Zhou. *Error Link Detection and Correction in Wikipedia.* **CIKM** 2016, pp. 307–316

8. **Chengyu Wang**, Rong Zhang, Xiaofeng He, Guomin Zhou, Aoying Zhou. *Event Phase Extraction and Summarization.* **WISE** 2016, pp. 473–488 (Best Paper Nominee)

9. **Chengyu Wang**, Rong Zhang, Xiaofeng He, Guomin Zhou, Aoying Zhou. *NERank: Bringing Order to Named Entities from Texts.* **APWeb** 2016, pp. 15–27

10. **Chengyu Wang**, Rong Zhang, Xiaofeng He, Aoying Zhou. *NERank: Ranking Named Entities in Document Collections.* **WWW** 2016, pp. 123–124 (Poster Paper)

11. **Chengyu Wang**, Ming Gao, Xiaofeng He and Rong Zhang. *Challenges in Chinese Knowledge Graph Construction.* **DESWeb@ICDE** 2015, pp. 59-61 (Vision Paper)

12. **Chengyu Wang**, Bing Xiao, Xiang Li, Jiawen Zhu, Xiaofeng He, Rong Zhang. *Predicting Users Age Range in Micro-blog Network.* **WISE** 2013, pp. 516–521 (Competition Report, WISE 2013 Challenge Runner-up Award)

13. Yan Fan, **Chengyu Wang**, Boxing Chen, Zhongkai Hu, Xiaofeng He. *SPMM: A Soft Piecewise Mapping Model for Bilingual Lexicon Induction.* **SDM** 2019 (Accepted)

14. Yan Fan, **Chengyu Wang**, Xiaofeng He. *Exploratory Neural Relation Classification for Domain Knowledge Acquisition.* **COLING** 2018, pp. 265–2276

SELECTED AWARDS AND SCHOLARSHIPS

Selected Scholarships:

Dec. 2018	Student Science and Technology Excellence Scholarship (Top-1 in School of Computer Science and Software Engineering, ECNU)
Oct. 2017	**National Scholarship for PhD Students**
Oct. 2016	**National Scholarship for PhD Students**
Dec. 2015	ECNU Graduate Freshman Scholarship
Oct. 2014	**National Scholarship**
Oct. 2013	**National Scholarship**
Oct. 2012	**National Scholarship**

Honors and Grants:

Jan. 2019	AAAI 2019 Student Volunteer and Scholarship Program
Oct. 2018	**Microsoft Research Asia Fellowship Nominee**
	(Top 20 out of all Ph.D. candidate applicants in Asia-Pacific regions)
Dec. 2016	Recipient, ECNU Outstanding Doctoral Dissertation Cultivation Plan of Action
	(Only 2 among all Ph.D. candidates in School of Computer Science and Software Engineering, ECNU)
Dec. 2016	COLING 2016 Student Support Program
Nov. 2016	WISE 2016 Best Paper Nominee
Oct. 2016	SIGIR Student Travel Grant (CIKM 2016)
April 2016	Google Student Travel Grant (WWW 2016)
May 2015	**Shanghai Outstanding Graduate**

Selected Competition Awards:

May 2018	Third Prize in National English Contest for College Students (Level A)
June 2014	Special Prize in Mathematical Modeling Contest for College Students
May 2014	**Special Prize in National English Contest for College Students (Level C)**
	(Top 0.1% among all participants)
Dec. 2013	**Second Prize in First National Big Data Technology Innovation Contest**
	(Among 3 teams that won the Second Prize out of 660 teams worldwide)
Oct. 2013	WISE 2013 Challenge Runner-up Award

SKILLS AND ABILITIES

Programming	Java, Python, SQL, LaTeX
Tools	Hadoop, Keras, TensorFlow, Lucene, Weka
English	**Shanghai Advanced English Interpretation** (Dec. 2013)
	CET-6: 636/710 CET-4: 663/710
Japanese	New Japanese Language Proficiency Test (JLPT): N3 Level (July 2013)

ACADEMIC ACTIVITIES

Conference Presentation:

2019	AAAI 2019 (Honolulu, USA), WWW 2019 (San Francisco, USA)
2016	WWW 2016 (Montréal, Canada), CIKM 2016 (Indianapolis, USA), COLING 2016 (Osaka, Japan), APWeb 2016 (Suzhou, China), WISE 2016 (Shanghai, China)
2015	DESWeb@ICDE 2015 (Seoul, South Korea)
2013	WISE 2013 (Nanjing, China)

Academic Services:

PC Member	ACL 2019 (Word-level Semantics Track)
Conference Review (Secondary)	NDBC 2015, APWeb 2016, KDD 2017, CIKM 2017, ICDM 2017, COLING 2018 KDD 2018, ICDM 2018, ICBK 2018, KDD 2019
Journal Review	IEEE Access (2018, 2019)
Volunteer	AAAI 2019 (Honolulu, USA)

Teaching Experience:

2016	TA, Database Systems and Applications (Spring Semester)
2015	TA, Web System Development (Autumn Semester)