

Curriculum Vitae of Tianxing Wu

Updated: July 20, 2022

Birth year: 1990

Email: tianxingwu@seu.edu.cn

Research Interests

Knowledge Graph, Knowledge Representation and Reasoning, Data Mining, Semantic Web, Artificial Intelligence Applications

Education

March, 2015 – September, 2018

Ph.D. in Software Engineering

Southeast University, China (Advisor: Prof. Dr. Guilin Qi)

September, 2012 – November, 2014

Master of Engineering in Software Engineering

Southeast University, China (Advisor: Prof. Dr. Guilin Qi)

September, 2008 – June, 2012

Bachelor of Engineering in Computer Science and Technology (Software Class)

Nanjing Tech University, China (GPA Ranking: 2/109)

Professional Experience

January, 2020 – Now

Assistant Professor (Tenure-Track)

at School of Computer Science and Engineering, Southeast University, China

June, 2018 – December, 2019

Postdoc Researcher

Research Associate (June, 2018 – September, 2018)

Research Fellow (October, 2018 – December, 2019)

at the Research Group of “Data Management and Analytics”, School of Computer Science and Engineering, Nanyang Technological University, Singapore
(work with Prof. Dr. Arijit Khan)

July, 2016 – September, 2016

Visiting Researcher

at the Research Group of “Web Science and Knowledge Management”, Institute AIFB, Karlsruhe Institute of Technology, Germany (work with Dr. Lei Zhang)

Awards and Scholarships

- 2021 **ZhiShan Young Scholar of Southeast University,**
The Doctor of Entrepreneurship and Innovation in Jiangsu Province
- 2020 **Excellent Ph.D. Degree Dissertation of Southeast University**
42 out of 643 PhD degree dissertations (2018 – 2019) of Southeast University
- 2019 **Excellent Ph.D. Degree Dissertation of Jiangsu Computer Society**
- 2017 **China National Scholarship for PhD Students (30,000 CNY)**
the 2nd time during my PhD
- 2016 **China National Scholarship for PhD Students (30,000 CNY)**
3 out of about 70 CS PhD students in Southeast University each year
- 2016 **Excellent Master Degree Thesis of Jiangsu Province (China)**
300 out of all the master degree theses (2014 – 2015) of 47 universities or institutes in Jiangsu Province (China)
- 2016 **Excellent Master Degree Thesis of Southeast University**
52 out of 3,492 master degree theses (2014 – 2015) of Southeast University
- 2014 **Excellent Master Degree Graduate of Southeast University**
10 out of about 150 CS master degree graduates in Southeast University (2014)
- 2010 **China National Scholarship for Undergraduate Students (8,000 CNY)**
3 out of about 1000 CS and EE undergraduates in Nanjing Tech University each year

Funding

- **Southeast University Grant (ZhiShan Young Scholar Program)**
PI, 300,000 CNY January, 2022 – December, 2024
Research on Technologies of Large-Scale Dynamic Knowledge Graph Representation Learning and Reasoning
- **Jiangsu Education Department Grant (The Project for the Doctor of Entrepreneurship and Innovation in Jiangsu Province, China)**
PI, 150,000 CNY October, 2021 – September, 2023
Multilingual Knowledge Graph Construction from the Web & Cross-Language Applications
- **The Grant of Nanjing Human Resources and Social Security Bureau (2021 Nanjing Scientific and Technological Innovation Project for Overseas Students, Funding Category: B, China)**
PI, 50,000 CNY July, 2021 – June, 2022
Multilingual Knowledge Graph Construction from the Web

- **The Grant of State Grid Jiangsu Electric Power Company Research Institute (China)**
PI, 695,000 CNY May, 2021 – October, 2022
Knowledge Graph Construction on Relay Protection and its High-Level Applications
- **NSFC Young Scientists Fund Grant (China)**
PI, 240,000 CNY January, 2021 – December, 2023
Research on Key Technologies of Bilingual Knowledge Graph Construction from Social Web Sites
- **The Grant of State Grid Jiangsu Electric Power Company Research Institute (China)**
PI, 291,000 CNY July, 2020 – January, 2021
Knowledge Graph Construction and Intelligent Question Answering on Professional Competitions of Relay Protection
- **The Start-Up Grant of Southeast University (China)**
PI, 100,000 CNY July, 2020 – December, 2020
Research on Key Technologies of Chinese-English Bilingual Knowledge Graph Construction
- **The Grant of Research Innovation Program for College Graduates in Jiangsu Province (China)**
PI, 24,000 CNY September, 2016 – September, 2017
Research on Cross-Lingual Taxonomy Matching Based on Bilingual Topic Models

Publications (<https://scholar.google.com/citations?user=VE7OIAkAAAAJ>)

Book Chapter:

Tianxing Wu, Guilin Qi, Cheng Li. Introduction to Chinese Knowledge Graphs and their Applications. The New Silk Road Leads through the Arab Peninsula: Mastering Global Business and Innovation. Emerald Publishing Limited, 2019: 153-167.

Journal and Conference Papers:

2022

Tianxing Wu, Arijit Khan, Melvin Yong, Guilin Qi, Meng Wang. Efficiently embedding dynamic knowledge graphs. *Knowledge-Based Systems (KBS)*, 2022, 250: 109124. (IF=8.139)

Xinnan Guo, Yongrui Chen, Guilin Qi, **Tianxing Wu**, Hao Xu. Improving Few-Shot Text-to-SQL with Meta Self-Training via Column Specificity. In: *Proceedings of the 31st International Joint Conference on Artificial Intelligence (IJCAI)*, 2022.

Sheng Bi, Zafar Ali, Meng Wang, **Tianxing Wu**, Guilin Qi. Learning heterogeneous graph embedding for Chinese legal document similarity. *Knowledge-Based Systems (KBS)*, 2022, 250: 109046. (IF=8.139)

Xiaoqing Cheng, Wendong Liu, Xuefeng Zhang, Minghao Wang, Changjun Bao, **Tianxing Wu**. Predicting Incidence of Hepatitis E Using Machine Learning in Jiangsu

Province, China. *Epidemiology & Infection*, 2022. (IF=4.434)

Jingting Wang, **Tianxing Wu**, Jiatao Zhang. Incorporating Uncertainty of Entities and Relations into Few-Shot Uncertain Knowledge Graph Embedding. In: *Proceedings of the 7th China Conference on Knowledge Graph and Semantic Computing (CCKS)*, 2022.

Chaoyu Gao, **Tianxing Wu**, Shenqi Jing, Yuxiang Wang. Medical Schema Matching using Knowledge Graph Embedding. In: *Proceedings of the 3rd Workshop on Extraction and Evaluation of Knowledge Entities from Scientific Documents (EEKE)*, 2022.

2021

Jiatao Zhang, **Tianxing Wu**, Guilin Qi. Gaussian Metric Learning for Few-Shot Uncertain Knowledge Graph Completion. In: *Proceedings of the 26th International Conference on Database Systems for Advanced Applications (DASFAA), Part I*, 2021: 256-271. (Full Paper)

Yuxiang Wang, Xiaoliang Xu, Qifan Hong, Jiahui Jin, **Tianxing Wu**. Top-k star queries on knowledge graphs through semantic-aware bounding match scores. *Knowledge-Based Systems (KBS)*, 2021, 213: 106655. (IF=8.038)

Long Zhang, **Tianxing Wu**, Xiuqi Chen, Bingjie Lu, Chongning Na, Guilin Qi. Auto Insurance Knowledge Graph Construction and Its Application to Fraud Detection. In: *Proceedings of the 10th International Joint Conference on Knowledge Graphs (IJCKG)*, 2021: 64-70. (Full Paper)

Luo Fei, **Tianxing Wu**, Arijit Khan. Online Updates of Knowledge Graph Embedding. In: *Proceedings of the 10th International Conference on Complex Networks and Their Applications (COMPLEX NETWORKS), Volume 2*, 2021: 523-535. (Full Paper)

Yike Wu, Yipeng Zhu, Jingchen Li, Chengye Zhang, Tianling Gong, Xiyuan Du, **Tianxing Wu**. Unmanned Aerial Vehicle Knowledge Graph Construction with SpERT. In: *Proceedings of the 6th China Conference on Knowledge Graph and Semantic Computing (CCKS), Evaluation Track*, 2021: 151-159. (Full Paper)

2020

Tianxing Wu, Haofen Wang, Cheng Li, Guilin Qi, Xing Niu, Meng Wang, Lin Li, Chaomin Shi. Knowledge graph construction from multiple online encyclopedias. *World Wide Web-Internet and Web Information Systems (WWWJ)*, 2020, 23(5): 2671-2698. (IF=2.892)

Yuxiang Wang, Arijit Khan, **Tianxing Wu**, Jiahui Jin, Haijiang Yan. Semantic Guided and Response Times Bounded Top-k Similarity Search over Knowledge Graphs. In: *Proceedings of the 36th IEEE International Conference on Data Engineering (ICDE)*, 2020: 445-456. (Full Paper)

2019

Tianxing Wu, Guilin Qi, Bin Luo, Lei Zhang, Haofen Wang. Language-Independent

Type Inference of the Instances from Multilingual Wikipedia. *International Journal on Semantic Web and Information Systems (IJSWIS)*, 2019, 15(2): 22-46. (IF=1.833)

Bing Liu, Huan Gao, Guilin Qi, Shangfu Duan, **Tianxing Wu**, Meng Wang. Adversarial Discriminative Denoising for Distant Supervision Relation Extraction. In: *Proceedings of the 24th International Conference on Database Systems for Advanced Applications (DASFAA), Part III*, 2019: 282-286. (Short Paper)

Yongpan Sheng, Meng Wang, **Tianxing Wu**, Han Xu. Adaptive Local Learning Regularized Nonnegative Matrix Factorization for Data Clustering. *Applied Intelligence*, 2019, 49(6): 2151-2168. (IF=2.882)

Bing Liu, Guilin Qi, Lu Pan, Shangfu Duan, **Tianxing Wu**. Incorporating Human Knowledge in Neural Relation Extraction with Reinforcement Learning. In: *Proceedings of International Joint Conference on Neural Networks (IJCNN)*, 2019. (Full Paper)

Yongpan Sheng, **Tianxing Wu**, Xin Wang: Incorporating Term Definitions for Taxonomic Relation Identification. In: *Proceedings of the 9th Joint International Semantic Technology Conference (JIST)*, 2019: 1-17. (Full Paper)

Lei Zhang, **Tianxing Wu**, Liang Xu, Meng Wang, Guilin Qi, Harald Sack. Emerging Entity Discovery Using Web Sources. In: *Proceedings of the 4th China Conference on Knowledge Graph and Semantic Computing (CCKS)*, 2019: 175-184.

Mengyi Zhang, **Tianxing Wu**, Qiu Ji, Guilin Qi. Mining Hypernym-Hyponym Relations from Social Tags via Tag Embedding. In: *Proceedings of the 5th International Conference on Artificial Intelligence and Security (ICAIS)*, 2019: 319-328. (Short Paper)

2018

Tianxing Wu, Haofen Wang, Guilin Qi, Jiangang Zhu, Tong Ruan. On building and publishing Linked Open Schema from social Web sites. *Journal of Web Semantics (JWS)*, 2018, 51: 39-50. (IF=2.429)

Tianxing Wu, Guilin Qi, Cheng Li, Meng Wang. A Survey of Techniques for Constructing Chinese Knowledge Graphs and Their Applications. *Sustainability*, 2018, 10(9): 3245. (IF=2.592)

Kang Xu, Guilin Qi, Junheng Huang, **Tianxing Wu**, Xuefeng Fu. Detecting bursts in sentiment-aware topics from social media. *Knowledge-Based Systems (KBS)*, 2018, 21(2): 443-461. (IF=4.396)

Qiu Ji, Guilin Qi, Huan Gao, **Tianxing Wu**. Survey on Schema Induction from Knowledge Graphs. In: *Proceedings of the 3rd China Conference on Knowledge Graph and Semantic Computing (CCKS)*, 2018: 136-142. (Short Paper)

2017

Tianxing Wu, Lei Zhang, Guilin Qi, Xuan Cui, Kang Xu. Encoding Category

Correlations into Bilingual Topic Modeling for Cross-Lingual Taxonomy Alignment. *In: Proceedings of the 16th International Semantic Web Conference (ISWC), Part I, 2017: 728-744. (Full Paper)*

Kang Xu, Guilin Qi, Junheng Huang, **Tianxing Wu**. Incorporating Wikipedia concepts and categories as prior knowledge into topic models. *Intelligent Data Analysis (IDA), 2017, 21(2): 443-461. (IF=0.772)*

Tianxing Wu, Du Zhang, Lei Zhang, Guilin Qi. Cross-Lingual Taxonomy Alignment with Bilingual Knowledge Graph Embeddings. *In: Proceedings of the 7th Joint International Semantic Technology Conference (JIST), 2017: 251-258. (Short Paper)*

Tianxing Wu, Cong Gao, Guilin Qi, Lei Zhang, Chuanqi Dong, He Liu, Du Zhang. KG-Buddhism: The Chinese Knowledge Graph on Buddhism. *In: Proceedings of the 7th Joint International Semantic Technology Conference (JIST), 2017: 259-267. (Short Paper)*

Kang Xu, Feng Liu, **Tianxing Wu**, Sheng Bi, Guilin Qi. A Fast and Effective Framework for Lifelong Topic Model with Self-learning Knowledge. *In: Proceedings of the 16th China National Conference on Computational Linguistics (CCL), 2017: 147-158. (Full Paper)*

Kang Xu, Junheng Huang, **Tianxing Wu**. A Sentiment and Topic Model with Timeslice, User and Hashtag for Posts on Social Media. *In: Proceedings of the 2nd China Conference on Knowledge Graph and Semantic Computing (CCKS), 2017: 59-65. (Short Paper)*

2016

Tianxing Wu, Guilin Qi, Haofen Wang, Kang Xu, Xuan Cui. Cross-Lingual Taxonomy Alignment with Bilingual Biterm Topic Model. *In: Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI), 2016: 287-293. (Full Paper)*

Kang Xu, Guilin Qi, Junheng Huang, **Tianxing Wu**. A Joint Model for Sentiment-Aware Topic Detection on Social Media. *In: Proceedings of 22nd European Conference on Artificial Intelligence (ECAI), 2016: 238-346. (Full Paper)*

Tianxing Wu, Shengjia Yan, Zhixin Piao, Liang Xu, Ruiming Wang, Guilin Qi. Entity Linking in Web Tables with Multiple Linked Knowledge Bases. *In: Proceedings of the 6th Joint International Semantic Technology Conference (JIST), 2016: 239-253. (Full Paper)*

2014

Haofen Wang, **Tianxing Wu**, Guilin Qi, Ruan Tong. On Publishing Chinese Linked Open Schema. *In: Proceedings of the 13th International Semantic Web Conference (ISWC), Part I, 2014: 293-308. (Full Paper)*

Tianxing Wu, Shaowei Ling, Guilin Qi, Haofen Wang. Mining Type Information from

Chinese Online Encyclopedias. *In: Proceedings of the 4th Joint International Semantic Technology Conference (JIST)*, 2014: 213-229. (Full Paper)

Tianxing Wu, Guilin Qi, Haofen Wang. Zhishi.schema Explorer: A Platform for Exploring Chinese Linked Open Schema. *In: Proceedings of the 7th Chinese Semantic Web Symposium and 2nd Chinese Web Science Conference (CSWS)*, 2014: 174-181. (Demo Paper)

Yanfang Ma, Huan Gao, **Tianxing Wu**, Guilin Qi. Learning Disjointness Axioms With Association Rule Mining and Its Application to Inconsistency Detection of Linked Data. *In: Proceedings of the 7th Chinese Semantic Web Symposium and 2nd Chinese Web Science Conference (CSWS)*, 2014: 29-41. (Full Paper)

Patents in China

[1] A Machine Learning Based Approach for Matching Ontologies in Literature Domain, Inventors: **Tianxing Wu**, Guilin Qi, Bin Luo, Bin Lu, Application Number: 201410799922.3. (granted)

[2] A Machine Learning Based Approach for Constructing Social Network Ontologies, Inventors: **Tianxing Wu**, Cheng Li, Guilin Qi, Application Number: 201610115254.7. (granted)

[3] A Table Entity Linking Approach Based on Multiple Knowledge Bases, Inventors: **Tianxing Wu**, Guilin Qi, Taiyun Liu, Shenjia Yan, Zhixin Piao, Liang Xu, Ruiming Wang, Application Number: 201610920031.8. (granted)

[4] An Instance Matching Approach based on Rules, Inventors: **Tianxing Wu**, Lin Li, Guilin Qi, Application Number: 202110320754.5. (under review)

[5] A Paired Entity Disambiguation Approach on Web Tables, Inventors: **Tianxing Wu**, Lin Li, Guilin Qi, Application Number: 202110720148.2. (under review)

[6] An Entity Alignment Approach based Multiple Entity Contexts, Inventors: **Tianxing Wu**, Lin Li, Guilin Qi, Application Number: 202110346496.8. (under review)

[7] A Root Cause Tracing Approach for Distributed System Faults based on Knowledge Graph Techniques, Inventors: **Tianxing Wu**, Anyuan Luo, Guilin Qi, Sudong Fang, Application Number: 202110722163.0. (under review)

[8] A Machine Learning Based Approach for Cross-Lingual Taxonomy Alignment, Inventors: Yishu Fang, Guilin Qi, **Tianxing Wu**, Bin Lu, Application Number: 201510105414.5. (granted)

[9] A Cross-Lingual Taxonomy Matching Method Based on Topic Model, Inventors: Xuan Cui, Guilin Qi, **Tianxing Wu**, Application Number: 201710441927.2. (granted)

[10] A Dynamic Knowledge Graph Updating Approach, Inventors: Guilin Qi, Cheng Li, Lin Li, **Tianxing Wu**, Application Number: 201810627957.7. (under review)

[11] A Dynamic Knowledge Graph Representation Learning Approach under Dynamic Scenarios, Inventors: Chen Li, **Tianxing Wu**, Guilin Qi, Application Number: 202010972901.2. (under review)

[12] A Semantic Matching Model for Knowledge Points Location, Inventors: Yike Wu, **Tianxing Wu**, Lin Li, Chaoyu Gao, Guilin Qi, Application Number: 202110319217.9. (under review)

Service Activities

Academic Organizations

CIPS Language and Knowledge Computing Committee Member

CCF YOCSEF Nanjing Academic Committee Member

JSAC Natural Language Processing Committee Member

Conferences

2022 **CCKS Resource Track Chair**

Program Committee Member of AACL, IJCAI, IJCKG, CCKS

2021 **CCKS Poster & Demo Chair**

Program Committee Member of AACL, IJCAI, IJCKG, CCKS, PIC

External Reviewer of TheWebConf (WWW)

2020 **Program Committee Member** of IJCAI, ECAI, ISWC, PAKDD, JIST

External Reviewer of SIGMOD, VLDB, TheWebConf (WWW), CIKM

2019 **Program Committee Member** of JIST

External Reviewer of VLDB, TheWebConf (WWW), ISWC, DSAA

2018 **External Reviewer** of IJCAI, ICDM

2017 **External Reviewer** of AACL, IJCAI

2016 **External Reviewer** of AACL, IJCAI, WWW, ISWC, JIST

2015 **External Reviewer** of AACL, WWW, ISWC, ESWC, JIST

2014 **External Reviewer** of ISWC, EKAW, CSWS

Journals

Editorial Board Member of International Journal on Semantic Web and Information Systems (IJSWIS), Data Intelligence (DI)

2022 **Reviewer** of Journal of Web Semantics (JWS), Information Processing & Management (IPM), Knowledge-based Systems (KBS), Applied Intelligence (APIN), Engineering Applications of Artificial Intelligence (EAAI), International

- Journal on Semantic Web and Information Systems (IJSWIS), Aslib Journal of Information Management (AJIM), Scientometrics (SCIM), Data Intelligence (DI)
- 2021 **Reviewer** of Knowledge-based Systems (KBS), Applied Intelligence (APIN), International Journal on Semantic Web and Information Systems (IJSWIS), Data Intelligence (DI)
- 2020 **Reviewer** of IEEE Transactions on Knowledge and Data Engineering (TKDE), ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP), Knowledge-based Systems (KBS), Future Generation Computer Systems (FGCS), Applied Intelligence (APIN), Data Intelligence (DI), Information
- 2019 **Reviewer** of Knowledge-based Systems (KBS), Concurrency and Computation: Practice and Experience (CCPE), International Journal of Cognitive Informatics and Natural Intelligence (IJCINI), Information
External Reviewer of Information Sciences (IS)
- 2018 **Reviewer** of Knowledge-based Systems (KBS), International Journal on Semantic Web and Information Systems (IJSWIS)
External Reviewer of Journal of Web Semantics (JWS)
- 2017 **Reviewer** of International Journal on Semantic Web and Information Systems (IJSWIS)
- 2016 **External Reviewer** of Journal of Web Semantics (JWS)
- 2015 **External Reviewer** of Journal of Web Semantics (JWS)

Workshops

- 2022 **Program Committee Member** of EEKE 2022, the 3rd Workshop on Extraction and Evaluation of Knowledge Entities from Scientific Documents (co-located with JCDL 2022)
- 2021 **Program Committee Member** of EEKE 2021, the 2nd Workshop on Extraction and Evaluation of Knowledge Entities from Scientific Documents (co-located with JCDL 2021)
- 2020 **Program Committee Member** of GRADES-NDA 2020, the 3rd Joint International Workshop on Graph Data Management Experiences & Systems and Network Data Analytics (co-located with SIGMOD 2020)
- 2019 **Program Committee Member** of GRADES-NDA 2019, the 2nd Joint International Workshop on Graph Data Management Experiences & Systems and Network Data Analytics (co-located with SIGMOD 2019)
- 2018 **Program Committee Member** of BigGraphs 2018, the 5th International Workshop on High Performance Big Graph Data Management, Analysis, and Mining (co-located with IEEE BigData 2018)

Teaching

Undergraduate Courses

- **Instructor**, Knowledge Engineering, Southeast University, China
- **Instructor**, Knowledge Graph and Applications, Southeast University, China
- **Instructor**, Knowledge Engineering Practice, Southeast University, China
- **Teaching Assistant**, Introduction to Databases, NTU, Singapore

Current and Former Supervised Students

Master Students

2022

- Jingting Wang (Knowledge Graph Representation Learning) (Paper in CCKS 2022)
- Feiyue Wu (Medical Knowledge Services)

2021

- Yilin Chen (Rule Mining and Reasoning)
- Xudong Cao (Knowledge Graph Construction)
- Yipeng Zhu (Dialogue System)

2020

- Chaoyu Gao (Knowledge Graph Completion) (Paper in EEKE 2022)

Undergraduate Students

2018

- Minghao Wang (Infectious Disease Prediction) (Paper in Epidemiology & Infection 2022) (Next Position: Master Student, The Hong Kong University of Science and Technology)

Competitions

2021

- The Third Prize of the 12th Competition of Chinese College Students Service Outsourcing Innovation and Entrepreneurship.

supervised students: Minghao Wang, Yike Wu, Jingyi Xu, Chaoyu Gao, Xinnan Guo

- Rank the Second in the CCKS 2021 Evaluation Task: Unmanned Aerial Vehicle Knowledge Graph Construction: Construction Phase;

Rank the Third in the CCKS 2021 Evaluation Task: Unmanned Aerial Vehicle Knowledge Graph Construction: Application Phase.

supervised students: Yike Wu, Yipeng Zhu, Tianling, Gong, Chenye Zhang, Jingchen Li, Xiyuan Du

▫ 3 teams won the Second Prizes of the Future Cup Activists of Artificial Intelligence & Robotic Projects.

supervised students:

team1: Xiangtian Xue, Qianyi Zhu, Bin Zhu;

team2: Yilun Kong, Xinlong Yin, Xinjian Yin, Chenhao Li;

team3: Yike Wu, Yanglong He, Yintai Li, Xiyuan Du, Jingchen Li

one team won the Third Prize of the Future Cup Activists of Artificial Intelligence & Robotic Projects.

supervised students: Yichen Liu, Jiteng Zhao, Xin Lin