

Muhao Chen

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EDUCATION

Ph.D. Candidate in Computer Science, University of California, Los Angeles

2014.9-2019.6

- I am advised by Prof. Carlo Zaniolo. I also work closely with Prof. Kai-Wei Chang, Prof. Wei Wang and Prof. Yizhou Sun. My current research focuses on *representation learning for knowledge bases and text*, as well as *other machine learning techniques for NLP and graph mining*. A portion of my works also span to other areas such as bioinformatics, computer networks and databases.
- Teaching Assistant (Sept 2015–June 2016), Associate (Sept 2016–June 2017), Fellow (Sept 2017–June 2018)

B.S. in Computer Science (Honors Degree), Fudan University, Shanghai, China

2010.9-2014.6

PUBLICATION

In submission:

1. **Muhao Chen**, Yingtao Tian, Haochen Chen, Kai-Wei Chang, Steve Skiena, Carlo Zaniolo. Learning to Represent Bilingual Dictionaries. arXiv:1808.03726. In submission to **NAACL**.
2. **Muhao Chen**, Chelsea J. T. Ju, G. Zhou, T. Zhang, Kai-Wei Chang, Carlo Zaniolo, Wei Wang. Lasagna: Multifaceted Protein-Protein Interaction Prediction Based on Siamese Residual RCNN. In Submission to the *23rd International Conference on Research in Computational Molecular Biology (RECOMB)*, 2019.
3. Junheng Hao, **Muhao Chen**, Wenchao Yu, Yizhou Sun, Wei Wang. Universal Representation Learning of Knowledge Bases by Jointly Embedding Ontological Concepts and Instances. In Submission to **WWW**, 2019.
4. Weijia Shi, **Muhao Chen**, Yingtao Tian, Kai-Wei Chang. Learning Bilingual Word Embeddings Using Lexical Definitions. In Submission to **NAACL**, 2019.
5. **Muhao Chen**, Gang Huang, Carlo Zaniolo. Learning to Differentiate Between Main-articles and Sub-articles in Wikipedia. In Submission to **WWW**, 2019.
6. Changping Meng, **Muhao Chen**, Jie Mao, Bruno Ribeiro, Jennifer Neville. Readability Analysis of Web Articles Using Hierarchical LSTM. In Submission to **ECIR**, 2019.
7. Changjun Fan, Yuhui Ding, Li Zeng, **Muhao Chen**, Yizhou Sun and Zhong Liu. Betweenness Centrality Estimation from Scratch: A Novel Graph Neural Network Based Approach. In Submission to **WWW**, 2019
8. Yingtao Tian, Haochen Chen, Bryan Perozzi, **Muhao Chen**, Xiaofei Sun, Steven Skiena. Social Relation Inference via Label Propagation. In Submission to **ECIR**, 2019.
9. Zequn Sun, Jiacheng Huang, Wei Hu, **Muhao Chen**, Yuzhong Qu. Context-aware Knowledge Graph Embeddings for Entity Alignment. In Submission to **NAACL**, 2019.

2019:

10. Xuelu Chen, **Muhao Chen**, Weijia Shi, Yizhou Sun, Carlo Zaniolo. Uncertain Knowledge Graphs Embeddings. In the *33rd International Conference on Artificial Intelligence (AAAI)*, 2019.
11. Qi Zhao, **Muhao Chen**, Pengyuan Du, Tuan Le, Mario Gerla. Towards Efficient Cellular Traffic Offloading via Dynamic MPTCP Path Configuration with SDN. In *IEEE International Conference on Computing, Networking and Communications (ICNC)*, 2019.

2018:

12. Carlo Zaniolo, Shi Gao, Maurizio Atzori, **Muhao Chen**, Jiaqi Gu. User-Friendly Temporal Queries on Historical Knowledge Bases. In *Information and Computation*. Elsevier, 2018
13. **Muhao Chen**, Gang Huang, Changping Meng, Carlo Zaniolo. Neural Article Pair Modeling for Wikipedia Sub-article Matching. In the *29th European Conference on Machine Learning (ECML)*, 2018 (**Plenary Presentation**, ~1.7% acceptance rate)
14. **Muhao Chen**, Yingtao Tian, Kai-Wei Chang, Steven Skiena, Carlo Zaniolo. Co-training Embeddings of Knowledge Graphs and Entity Descriptions for Cross-lingual Entity Alignment. In the *27th International Joint Conference on Artificial Intelligence (IJCAI)*, 2018
15. **Muhao Chen**, Yingtao Tian, Xuelu Chen, Zijun Xue, Carlo Zaniolo. On2Vec: Embedding-based Relation Prediction for Ontology Population. In *Proceedings of the 17th SIAM Conference on Data Mining (SDM)*. SIAM, 2018
16. Haochen Chen, Xiaofei Sun, Yingtao Tian, Bryan Perozzi, **Muhao Chen** and Steven Skiena. Enhanced Network Embeddings via Exploiting Edge Labels. In the *27th ACM Conference on Information and Knowledge Management (CIKM)*. ACM 2018.
17. Pengyuan Du, Seunghyun Yoo, Qi Zhao, **Muhao Chen**, Mario Gerla. Towards Opportunistic Resource Sharing in Mobile Social Networks - an Evolutionary Game Theoretic Approach. In *Proceedings of the 19th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, ACM 2018.

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18. **Muhao Chen**, Qi Zhao, Pengyuan Du, Carlo Zaniolo, Mario Gerla. Demand-driven Cache Allocation Based on Context-aware Collaborative Filtering. In *Proceedings of the 19th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, ACM 2018.
19. Yingtao Tian, Haochen Chen, Bryan Perozzi, **Muhao Chen**, Xiaofei Sun, Steven Skiena. Social Relation Inference via Label Propagation. In *the 14th KDD Workshop on Mining and Learning with Graphs (MLG)*, 2018.
20. Pei Zhou, **Muhao Chen**, Kai-Wei Chang, Carlo Zaniolo. Quantification and Analysis of Scientific Language Variation by Research Fields. In *the ICDM Workshop on Cross-disciplinary Data Exchange and Collaboration (CDEC)*, 2018.

2017:

21. **Muhao Chen**, Yingtao Tian, Mohan Yang, Carlo Zaniolo. Multilingual Knowledge Graph Embeddings for Cross-lingual Knowledge Alignment. In *Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI)*. 2017
22. **Muhao Chen**, Tao Zhou, Pei Zhou, Carlo Zaniolo. Multi-graph Affinity Embeddings for Multilingual Knowledge Graphs. **Contributed talk** (3 of 22 accepted papers) in the *6th Workshop on Automated Knowledge Base Construction at NIPS (AKBC)*. 2017.
23. **Muhao Chen**, Carlo Zaniolo. Learning Multi-faceted Knowledge Graph Embeddings for Natural Language Processing. In *Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI)*. 2017 (Extended abstract)
24. Tao Zhou, **Muhao Chen**, Demetri Terzopoulos, Jie Yu. Attention-based Natural Language Person Retrieval. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*. IEEE, 2017

2016:

25. **Muhao Chen**, Shi Gao, X. Sean Wang. Converting Spatiotemporal Data Among Heterogeneous Granularity Systems. In *Proceedings of the 25th IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*. IEEE, 2016
26. **Muhao Chen**, Shi Gao, Jingheng Zhou, X. Sean Wang. Converting Spatiotemporal Data Among Multiple Granularity Systems. In *Proceedings of the 31st ACM SIGAPP Symposium on Applied Computing (SAC)*. ACM, 2016

2015:

27. Shi Gao, **Muhao Chen**, Maurizio Atzori, Carlo Zaniolo. SPARQL^T and its User-Friendly Interface for Managing and Querying the History of Knowledge Bases. In *the 14th International Semantic Web Conference (ISWC)*. Springer-Verlag, 2015.

ACADEMIC SERVICES

PC Member:

2019: AAAI, AKBC, NAACL, ICSC.

2018: AAAI, EMNLP, IEEE BigData, IEEE WETICE, NLPCC, SoCal NLP, IEEE AIKE.

Organization committee: 2019: IEEE AIKE (Doctoral Consortium Co-chair)

Journal Reviewer: TKDD, Frontiers of Computer Science.

INDUSTRIAL EXPERIENCES

Research Intern, Microsoft Research, Redmond, WA (NLP Group) 2018.6-2018.9

- *Attributed hyperbolic embeddings of corporation hierarchies with massive email logs.*

RSDE Intern, Google, Mountain View, CA (Google Knowledge Graph) 2017.6~2017.9

- *Neural Article Pair Modeling for Large-scale Sub-article Relation Extraction from Wikipedia.*

SDE Intern, Google, Mountain View, CA (Procella Real-time Data Infrastructure) 2016.6~2016.9

- *Dynamic Shard-partitioning for Large-scale Windowed Event Streams.*

R&D Intern, Teradata Labs, Los Angeles, CA (Optimizer Group) 2015.6~2015.9

- *Multi-task Learning for Cost-based Database Optimizers.*

SELECTED AWARDS

UCLA Dissertation Year Fellowship. 2018-2019

Google Research & Travel Support Archimedes Program. 2018

NSF Travel Grants. 2016, 2017

Research Grant of the National University Student Innovation Program. Ministry of Education of China. 2014

Tung OOC Scholarships. Tung's Foundation of Hong Kong & The Oriental Overseas Container Line. 2012, 2013

Wang-Dao Fellowship. President of Fudan University. 2013

EMC Scholarship. EMC Inc. 2013

Chun-Tsung Fellowship. Hui-Chun Chin and Tsung-Dao Lee Chinese Undergraduate Research Endowment. 2012

REFEREES

1. Carlo Zaniolo
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2. Kai-Wei Chang
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