

Wenhao Yu

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RESEARCH INTERESTS

- Applied Machine Learning
- Structured Data Mining
- Natural Language Generation
- Question Answering Systems

EDUCATION EXPERIENCE

University of Notre Dame, IN, US August 2019 – *present*
Ph.D. in Computer Science and Engineering GPA: 3.95/4.0

- Advisor: Professor Meng Jiang

Sichuan University, Chengdu, China August 2015 – July 2019
B.S. in Computer Science and Technology GPA: 3.84/4.0

- Graduated with honors

HONORS AND AWARDS

First Place at the 14th Notre Dame CSE Annual Poster Contest	2020
Notre Dame CSE Select Fellowship	2019
Tang Lixin Excellent Student Scholarship	2018
National Scholarship of China	2017

PEER-REVIEWED CONFERENCE PUBLICATIONS

[C7] **Wenhao Yu**, Lingfei Wu, Yu Deng, Ruchi Mahindru, Qingkai Zeng, Sinem Guven, Meng Jiang. “A Technical Question Answering System with Transfer Learning”, in Proceedings of Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2020.

[C6] Qingkai Zeng, **Wenhao Yu**, Mengxia Yu, Tianwen Jiang, Tim Wenerger, Meng Jiang “Tri-Train: Automatic Pre-Fine Tuning between Pre-Training and Fine-Tuning for SciNER”, in Findings of Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2020.

[C5] **Wenhao Yu**, Lingfei Wu, Qingkai Zeng, Shu Tao, Yu Deng, Meng Jiang. “Crossing Variational Autoencoders for Answer Retrieval”, in Proceedings of Annual Conference of the Association for Computational Linguistics (**ACL**), 2020.

[C4] Zhichun Guo, **Wenhao Yu**, Chuxu Zhang, Meng Jiang, Nitesh V. Chawla, “GraSeq: Graph and Sequence Fusion Learning for Molecular Property Prediction”, in Proceedings of ACM International Conference on Information and Knowledge Management (**CIKM**), 2020.

[C3] **Wenhao Yu**, Mengxia Yu, Tong Zhao, Meng Jiang. “Identifying Referential Intention with Heterogeneous Contexts”, in the Web Conference (**WWW**), 2020.

[C2] **Wenhao Yu**, Wei Peng, Yu Shu, Qingkai Zeng, Meng Jiang. “Experimental Evidence Extraction in Data Science with Hybrid Table Features and Ensemble Learning”, in Proceedings of the Web Conference (**WWW**), 2020. (**Best poster award** at the Notre Dame CSE Annual Poster Contest)

[C1] **Wenhao Yu**, Zongze Li, Qingkai Zeng, Meng Jiang. “Tablepedia: Automating PDF Table Reading in an Experimental Evidence Exploration and Analytic System,” in Proceedings of International World Wide Web Conference (**WWW**), 2019.

PEER-REVIEWED WORKSHOP PUBLICATIONS

[W3] **Wenhao Yu**, Lingfei Wu, Shu Tao, Yu Deng, Qingkai Zeng, Meng Jiang. “Generating Helpful Responses for Intelligent Tech Support,” in Workshop on Reasoning for Complex QA (RCQA) at Conference on Artificial Intelligence (**AAAI**), 2020.

[W2] Tong Zhao, Bo Ni, **Wenhao Yu**, Meng Jiang. "Early Fraud Detection with Augmented Graph Learning", in the Workshop on Deep Learning on Graphs: Methods and Applications (DLG) at ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2020.

[W1] Qingkai Zeng, Mengxia Yu, **Wenhao Yu**, Jinjun Xiong, Yiyu Shi, Meng Jiang. "Faceted Hierarchy: A New Graph Type to Organize Scientific Concepts and a Construction Method," in the Workshop on Graph-Based Natural Language Processing (TextGraphs) at Conference on Empirical Methods in Natural Language Processing (EMNLP), 2019.

PREPRINT

[P1] **Wenhao Yu***, Xiangyu Dong* (equal contribution), Chenguang Zhu, Meng Jiang. "Injecting Entity Types into Entity-Guided Text Generation", arXiv:2009.13401, 2020.

PROJECT EXPERIENCE

Intelligent Technology Support with Knowledge-Enhanced Non-Factoid QA

Working with scientists from IBM T.J. Watson Research Center: Drs. Yu Deng, Lingfei Wu, Ruchi Mahindru, Sinem Guoen January 2020 - present

- Developed a system that offers responses to technology-support questions by retrieving answers from a large question-answer database. It was built upon a siamese-BERT network. It adopted a deep transfer learning method to support various technical domains. (The work was accepted to EMNLP 2020.)
- Developing a novel deep transfer learning framework that explores knowledge transfer across tasks and domains. On the technical QA benchmark dataset, it outperforms the state-of-the-art methods on the leaderboard. (The work is under review at AAAI 2021.)

Worked with Drs. Lingfei Wu, Yu Deng, Shu Tao (IBM) July 2019 - November 2019

- Proposed a novel model called "cross variational auto-encoders." It generated questions with aligned answers and generated answers with aligned questions. This model outperforms the state-of-the-art on SQuAD answer retrieval tasks. (The work was accepted to ACL 2020.)

Identifying Behavioral Intention from Heterogeneous Data

Worked with Dr. Meng Jiang as Graduate Research Assistant Jul 2019 - Dec 2019

- Proposed a novel framework with Interactive Hierarchical Attention to identify intentions of referential behaviors by aggregating heterogeneous contexts. (This work was accepted to WWW 2020.)

Tablepedia: Automatic Table Reading for Experimental Evidence

Worked with Dr. Meng Jiang as Undergraduate Research Assistant Jul 2018 - Oct 2019

- Proposed an information extraction system to automate the integration of tables from research publication PDFs into a database of experimental results. (This work was accepted to WWW 2019.)
- Proposed an ensemble learning method with structural and semantic table features for table unification. (This work was accepted to WWW 2020.)

TEACHING EXPERIENCE

Notre Dame CSE 40647/60647: Data Science Fall 2020

- Teaching assistant for Professor Meng Jiang

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- Teaching assistant for Professor Meng Jiang

PROFESSIONAL SERVICES

Conference PC/Reviewer

- EMNLP 2020
- WSDM 2021
- AAAI 2021

Journal Invited Reviewer:

- Transactions on Knowledge Discovery from Data (TKDD)
- International Journal of Intelligent Systems (IJIS)