Yu Chen | Curriculum Vitae

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Education

Rensselaer Polytechnic Institute — **Troy, NY**
Ph.D in Computer Science — Aug. 2015 - Aug. 2020 (expected)
GPA: 3.89/4.0

The University of Michigan-Dearborn — **Dearborn, MI**
Exchange student in Computer & Information Science — Sep. 2014 - Dec. 2014

The University of Electronic Science and Technology of China — **Chengdu, China**
B.Eng. in Telecommunications Engineering — Sep. 2011 - Jul. 2015
GPA: 3.98/4.0

Research & Work Experience

Graduate Research Assistant, RPI — **Troy, NY**
Advisor: Dr. Mohammed J. Zaki — May. 2017 - Present

AI Research Intern, IBM Research — **Yorktown Heights, NY**
Manager: Dr. Lazaros Polymenakos — May. 2018 - Aug. 2018

Graduate Teaching Assistant, RPI — **Troy, NY**
Aug. 2015 - May. 2017

Research Interests

His research interests lie at the intersection of Machine Learning (Deep Learning), Data Mining, and Natural Language Processing, with a particular emphasis on the fast-growing field of Graph Neural Networks and their applications in various domains. He is actively seeking a full-time Research Scientist or equivalent position.

Projects

Personalized Search and Recommendation for Health Empowerment — **Troy, NY**
Rensselaer Polytechnic Institute, Advisor: Dr. Mohammed J. Zaki — May. 2017 - Present
Designed and developed a novel knowledge-based Q&A system for personalized food search and recommendation.

Graph Learning for Graph Neural Networks — **Troy, NY**
Rensselaer Polytechnic Institute, Mentor: Dr. Lingfei Wu — Jun. 2019 - Sep. 2019
Designed and developed a novel iterative deep graph learning method for graph neural networks.

Natural Question Generation — **Troy, NY**
Rensselaer Polytechnic Institute, Mentor: Dr. Lingfei Wu — Mar. 2019 - May. 2019
Designed and developed a reinforcement learning based graph-to-sequence model for natural question generation.

Conversational Machine Comprehension — **Troy, NY**
Rensselaer Polytechnic Institute, Mentor: Dr. Lingfei Wu — Dec. 2018 - Feb. 2019
Designed and developed a system for conversational machine comprehension via recurrent graph neural networks.

Knowledge Base Question Answering — **Troy, NY**
Rensselaer Polytechnic Institute, Advisor: Dr. Mohammed J. Zaki — Sep. 2017 - May 2018
Designed and developed a novel bidirectional attentive memory network for question answering over knowledge graphs.

Text Analytics via Topic modeling and Text Representation — **Troy, NY**
Rensselaer Polytechnic Institute, Advisor: Dr. Mohammed J. Zaki — Aug. 2016 - Feb. 2017
Designed and developed a novel autoencoder-based system for text analytics via competitive learning.

Honors & Awards

Best Student Paper Award of AAAI DLGMA 2020
AAAI DLGMA 2020 FEB. 2020

Student Travel Award of SIGKDD 2017
ACM SIGKDD JUL. 2017

The First-Class People's Scholarship
The University of Electronic Science and Technology of China 2012 - 2013 & 2013 - 2014

National Scholarship
Ministry of Education of China, Top 1.6 % 2011 - 2012

Skills

Research: Machine Learning, Deep Learning, Natural Language Processing, Data Mining

Programming: PYTHON = C/C++ > MATLAB > R = JAVASCRIPT = PHP

Software: PyTorch, TensorFlow, Keras, Scikit-learn, Linux, MacOS, Database, Git

Publications

Preprints

1. **Yu Chen**, Ching-Hua Chen and Mohammed J. Zaki, Personalized Question Answering over a Large-scale Food Knowledge Graph.
2. **Yu Chen**, Lingfei Wu and Mohammed J. Zaki, Natural Question Generation from Knowledge Graphs.
3. **Yu Chen**, Lingfei Wu and Mohammed J. Zaki, Iterative Deep Graph Learning for Graph Neural Networks.
4. **Yu Chen**, Lingfei Wu and Mohammed J. Zaki, GraphFlow: Exploiting Conversation Flow with Graph Neural Networks for Conversational Machine Comprehension.

Conference Publications

1. **Yu Chen**, Lingfei Wu and Mohammed J. Zaki, Reinforcement Learning Based Graph-to-Sequence Model for Natural Question Generation. In *Proceedings of the 8th International Conference on Learning Representations* (**ICLR 2020**), Addis Ababa, Ethiopia, Apr 26-30, 2020.
2. **Yu Chen**, Lingfei Wu and Mohammed J. Zaki, Deep Iterative and Adaptive Learning for Graph Neural Networks. In *AAAI 2020 Workshop on Deep Learning on Graphs: Methodologies and Applications* (**AAAI DLGMA 2020**), New York, NY, Feb 7-12, 2020. (Best Student Paper Award).
3. **Yu Chen**, Lingfei Wu and Mohammed J. Zaki. Natural Question Generation with Reinforcement Learning Based Graph-to-Sequence Model. In *NeurIPS 2019 workshop on Graph Representation Learning* (**NeurIPS GRL 2019**), Vancouver, BC, Canada, Dec 8-14, 2019.
4. Steven Haussmann, **Yu Chen**, Oshani Seneviratne, Nidhi Rastogi, James Codella, Ching-Hua Chen, Deborah McGuinness, Mohammed J. Zaki. FoodKG Enabled Q&A Application. In *Proceedings of the 18th International Semantic Web Conference* (**ISWC 2019**), Auckland, New Zealand, Oct 26-30, 2019.
5. Steven Haussmann, Oshani Seneviratne, **Yu Chen**, Yarden Ne'eman, James Codella, Ching-Hua Chen, Deborah L. McGuinness and Mohammed J. Zaki. FoodKG: A Semantics-Driven Knowledge Graph for Food Recommendation. In *Proceedings of the 18th International Semantic Web Conference* (**ISWC 2019**), Auckland, New Zealand, Oct 26-30, 2019.
6. **Yu Chen**, Lingfei Wu and Mohammed J. Zaki. GraphFlow: Exploiting Conversation Flow with Graph Neural Networks for Conversational Machine Comprehension. In *ICML 2019 Workshop on Learning and Reasoning with Graph-Structured Representations* (**ICML LRG 2019**), Long Beach, CA, June 9-15, 2019.
7. **Yu Chen**, Lingfei Wu and Mohammed J. Zaki. Bidirectional Attentive Memory Networks for Question Answering over Knowledge Bases. In *Proceedings of the 2019 Annual Conference of the North American Chapter of the Association for Computational Linguistics* (**NAACL-HLT 2019**), Minneapolis, MN, June 2-7, 2019. Long Oral Paper.
8. **Yu Chen**, Rhaad M. Rabbani, Aparna Gupta and Mohammed J. Zaki. Comparative Text Analytics via Topic Modeling in Banking. In *Proceedings of the 2017 IEEE Symposium Series on Computational Intelligence* (**IEEE SSCI 2017**), Hawaii, USA, Nov 27-Dec 1, 2017.
9. **Yu Chen** and Mohammed J. Zaki. KATE: K-competitive Autoencoder for Text. In *Proceedings of the 23rd International Conference on Knowledge Discovery and Data Mining* (**ACM SIGKDD 2017**), Halifax, NS, Canada, Aug 13-17, 2017. Full Oral Paper. Acceptance rate=8.6% (64 out of 748).
10. **Yu Chen**, Hao Chen and Jie Shen. Fast Voxel-based Surface Propagation Method for Outlier Removal. In *Proceedings of the 13th International CAD Conference* (**CAD 2016**), Vancouver, BC, Canada, June 27-29, 2016.

Journal Publications

1. Hao Chen, **Yu Chen**, Xu Zhang, Baiyuan Li, Xiaoqiang Liu, Xuefei Shi and Jie Shen. A Fast Voxel-based Method for Outlier Removal in Laser Measurement. In *International Journal of Precision Engineering and Manufacturing* (**IJPEM**), 2019.

Patents

1. Lingfei Wu, **Yu Chen**, Mohammed J. Zaki. Method and System for Subgraph Guided Knowledge Graph Question Generation with Graph Neural Networks. To be filed.
2. Lingfei Wu, **Yu Chen**, Mohammed J. Zaki. Method and System for Iterative Deep Graph Learning for Graph Neural Networks. To be filed.
3. Lingfei Wu, **Yu Chen**, Mohammed J. Zaki. Method and System for Natural Question Generation via Reinforcement Learning Based Graph-to-Sequence Model. Filed, Jan 2020.
4. Lingfei Wu, **Yu Chen**, Mohammed J. Zaki. Method and System for Conversational Machine Reading Comprehension via Graph Neural Networks. Filed, Aug 2019.