Yu Chen | Curriculum Vitae

(518) 423-5526 • cheny39@rpi.edu
LinkedIn: linkedin.com/in/whatshugo

Education

Rensselaer Polytechnic Institute **Troy, NY**
Ph.D in Computer Science Aug. 2015 - May. 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: Prof. Mohammed J. Zaki May. 2017 - Present

AI Research Intern, IBM Research **Yorktown Heights, NY**
Manager: Dr. Lazaros Polymenakos May. 2018 - Aug. 2018
Designed and implemented a knowledge-based and task-oriented conversational recommendation system.

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

Python Web Developer Intern at Microoh **Chengdu, China**
Mar. 2015 - May. 2015
Implemented a personalized learning management system for online education.

Research Assistant in the Virtual Engineering Lab, UM-Dearborn **Dearborn, MI**
Advisor: Prof. Jie Shen Sep. 2014 - Dec. 2014
Designed and implemented a fast voxel-based surface propagation method for outlier removal in laser measurement.

Research Assistant in the Web Sciences Center, UESTC **Chengdu, China**
Advisor: Prof. Tao Zhou May. 2014 - Jul. 2014
Discovered interesting human behavior patterns with temporal dynamics in social networks.

Projects

Personalized Search and Recommendation for Health Empowerment **Troy, NY**
Rensselaer Polytechnic Institute, Advisor: Prof. Mohammed J. Zaki May. 2017 - Present
Designed and developed a novel deep learning-based Q&A system for personalized food search and recommendation. Check out our website.

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.

Name: Yu Chen
Email: cheny39@rpi.edu
Phone: (518) 423-5526

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

Comparative Text Analytics via Topic Modelling in Banking **Troy, NY**
Rensselaer Polytechnic Institute, Advisor: Prof. Mohammed J. Zaki Feb. 2017 - Jul. 2017
Applied topic modelling approaches to predict bank failures using a large set of SEC filings.

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

Unsupervised Cluster Labeling **Troy, NY**
Rensselaer Polytechnic Institute, Advisor: Prof. Heng Ji Oct. 2016 - Dec. 2016
Designed an unsupervised algorithm to automatically pick descriptive, human-readable labels for the clusters of entities by learning to predict hyper-hyponym relationships via word embeddings. Check out the Github repo: github.com/congruili/NLP-Cluster-Labeling-project.

Evaluating Countries and Products in International Trade **Troy, NY**
Rensselaer Polytechnic Institute Apr. 2016
Designed an evolutionary bipartite graph approach to evaluate which countries do better and which products are more valuable in international trade. More information is provided here.

Predicting whose Papers are Accepted the Most **Troy, NY**
Rensselaer Polytechnic Institute, Advisor: Prof. Mohammed J. Zaki Mar. 2016 - May. 2016
Designed multi-layered graph mining techniques to rank research institutes by predicting the number of accepted papers in incoming top conferences. Check out the Github repo: github.com/hugochan/KDDCUP2016.

Finding Email Correspondents in Online Social Networks. **Chengdu, China**
The University of Electronic Science and Technology of China Mar. 2015 - May. 2015
Designed an effective algorithm to help find email correspondents in online social networks by leveraging user profiles and network structures. More information is provided here.

Publications

Preprints

1. **Yu Chen**, Lingfei Wu and Mohammed J. Zaki, Iterative Deep Graph Learning for Graph Neural Networks.
2. **Yu Chen**, Lingfei Wu and Mohammed J. Zaki, Reinforcement Learning Based Graph-to-Sequence Model for Natural Question Generation.
3. **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. 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-Dec 14, 2019.
2. 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-Oct. 30, 2019.
3. Steven Haussmann, Oshani Seneviratne, **Yu Chen**, Yarden NeâĂŹeman, 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-Oct. 30, 2019.
4. **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-June 15, 2019.
5. **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-June 7, 2019. Long Oral Paper.

Name: Yu Chen
Email: cheny39@rpi.edu
Phone: (518) 423-5526

6. **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.
7. **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, August 13-17, 2017. Full Oral Paper. Acceptance rate=8.6% (64 out of 748).
8. **Yu Chen**, Hao Chen and Jie Shen. Fast Voxel-based Surface Propagation Method for Outlier Removal. **In Proceedings of the 13th International CAD Conference**, 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**, 2019.

Patents

1. Lingfei Wu, **Yu Chen**, Mohammed J. Zaki. Method and System for Natural Question Generation via Reinforcement Learning Based Graph-to-Sequence Model. To be filed, 2019.
2. Lingfei Wu, **Yu Chen**, Mohammed J. Zaki. Conversation History Within Conversational Machine Reading Comprehension. Aug, 2019.

Honors & Awards

Student Travel Award of SIGKDD 2017
ACM SIGKDD JUL. 2017

Second Place at the 2016 DataThon
Rensselaer Polytechnic Institute APR. 2016

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 = SCHEME = JAVASCRIPT = PHP

Software: PyTorch, TensorFlow, Keras, Linux, MacOS, Database, Git

Name: Yu Chen
Email: cheny39@rpi.edu
Phone: (518) 423-5526