

# Yu Chen | Curriculum Vitae

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## Education

### Rensselaer Polytechnic Institute

*Ph.D in Computer Science*

*GPA: 3.89/4.0*

**Troy, NY**

AUG. 2015 - MAY. 2020 (EXPECTED)

### The University of Michigan-Dearborn

*Exchange student in Computer & Information Science*

**Dearborn, MI**

SEP. 2014 - DEC. 2014

### The University of Electronic Science and Technology of China

*B.Eng. in Telecommunications Engineering*

*GPA: 3.98/4.0*

**Chengdu, China**

SEP. 2011 - JUL. 2015

## Research & Work Experience

### Graduate Research Assistant, RPI

*Advisor: Prof. [Mohammed J. Zaki](#)*

**Troy, NY**

MAY. 2017 - PRESENT

### AI Research Intern, IBM Research

*Manager: Dr. [Lazaros Polymenakos](#)*

Designed and implemented a knowledge-based and task-oriented conversational recommendation system.

**Yorktown Heights, NY**

MAY. 2018 - AUG. 2018

### Graduate Teaching Assistant, RPI

**Troy, NY**

AUG. 2015 - MAY. 2017

### Python Web Developer Intern at Microoh

Implemented a personalized learning management system for online education.

**Chengdu, China**

MAR. 2015 - MAY. 2015

### Research Assistant in the Virtual Engineering Lab, UM-Dearborn

*Advisor: Prof. [Jie Shen](#)*

Designed and implemented a fast voxel-based surface propagation method for outlier removal in laser measurement.

**Dearborn, MI**

SEP. 2014 - DEC. 2014

### Research Assistant in the Web Sciences Center, UESTC

*Advisor: Prof. [Tao Zhou](#)*

Discovered interesting human behavior patterns with temporal dynamics in social networks.

**Chengdu, China**

MAY. 2014 - JUL. 2014

## Projects

### Personalized Search and Recommendation for Health Empowerment

*Rensselaer Polytechnic Institute, Advisor: Prof. [Mohammed J. Zaki](#)*

Designed and developed a novel deep learning-based Q&A system for personalized food search and recommendation. Check out our [website](#).

**Troy, NY**

MAY. 2017 - PRESENT

### Graph Learning for Graph Neural Networks

*Rensselaer Polytechnic Institute, Mentor: Dr. [Lingfei Wu](#)*

Designed and developed a novel iterative deep graph learning method for graph neural networks.

**Troy, NY**

JUN. 2019 - SEP. 2019

### Natural Question Generation

*Rensselaer Polytechnic Institute, Mentor: Dr. [Lingfei Wu](#)*

**Troy, NY**

MAR. 2019 - MAY. 2019

Designed and developed a reinforcement learning based graph-to-sequence model for natural question generation.

### **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](https://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](https://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, 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-Apr 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-Feb 12, 2020.
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-Dec 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-Oct. 30, 2019.
5. Steven Haussmann, Oshani Seneviratne, **Yu Chen**, Yarden Neẖẖeman, 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.
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-June 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-June 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, August 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**, 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