Qing Wang

Ph.D.

1101 Kitchawan Rd
Yorktown Heights, 10598, NY
☎ *914-945-1751*
✉ *wangqingemail@gmail.com*
Homepage: *https://kesyren.github.io*

▬▬▬ INTERESTS

Large-scale Data Mining; Reinforcement Learning; Multi-armed Bandits; Machine Learning;

▬▬▬ EDUCATION

2014.8- 2018.12	**Ph.D. in Computer Science**, *Florida International University*, Miami, FL, USA. GPA: 3.81/4.0
2010.8- 2013.5	**M.E. in Computer Science**, *Xidian University*, Xi'an, Shaan'xi, China. GPA: 3.3/4.0
2005.8- 2009.6	**B.S. in Computer Science**, *Zhengzhou University*, Zhengzhou, Henan, China. GPA: 3.6/4.0

▬▬▬ RESEARCH EXPERIENCE

2019.3-Present **Postdoctoral Researcher**, *IBM T.J Watson Research Center*, New York, NY, USA.

- Leveraging AI in Service Automation Modeling: from Classical AI Through Deep Learning to Combination Models. (ICSOC 2019)
- AI for operations: facilitated problem diagnosis and determination, outage prediction, auto-resolution in complex IT environment by understanding the text description of IT ticket, identifying the temporal pattern from system events, and mining causality among system monitoring time series data.
- Event correlation and fault localization.

2018.5-2018.7 **Research Intern**, *IBM T.J Watson Research Center*, New York, NY, USA.

- Proposed and implemented an interactive framework using bandit models for AI skill Orchestration.
- Developed a new reward mechanism and deep learning model of reinforcement learning based on natural machine translation to learn the logic forms from natural language.
- Published a patent on anormaly detetion in service computing.

2017.5-2017.7 **Research Intern**, *IBM T.J Watson Research Center*, New York, NY, USA.

- Online IT Automation Recommendation Using Hierarchical Multi-armed Bandit Algorithms. (SDM 2018)
- Proposed a new online learning algorithm, a hierarchical multi-armed bandit algorithm for the IT automation recommendation;
- Implemented these online algorithms and conducted comparative experiments on a large-scale real ticket dataset collected from IBM Global Services.

2016.6-2016.8 **Research Intern**, *IBM T.J Watson Research Center*, New York, NY, USA.

- Constructing the Knowledge Base for Cognitive IT Service Management. (Best Student Paper Award of IEEE SCC 2017)
- Proposed an integrated framework for the ticket resolution recommendation;
- Constructed a domain knowledge base using ontology modeling techniques.

2014.8-
2016.5
	Teaching Assistant, *School of Computing and Information Sciences*, FIU, USA.
	○ 2014.8-2014.12 COP 4772 Principle of Database.
	   ○ 2015.2-2015.5 TCN 5010 Telecommunications Technology and Applications.
	   ○ 2015.8-2015.12 COP 2210 Java Programming I.
	   ○ 2016.2-2016.5 CAP 4770 Introduction to Data Mining.
	   ○ 2017.8-2017.12 CAP 5768 Introduction to Data Science.

2015.8- 2018.12	**Research Assistant**, *Knowledge Discovery Research Group*, FIU, USA. ○ **Multi-armed bandits.** Multi-armed bandits are very popular applying into various interactive recommender systems. I am working on modeling the interactive behaviors between users and items to better track users' preference. ○ **Event Mining.** Designed and implemented a **frequent-itemset mining module** of the online Event Mining system. This module is able to discover some interesting frequent patterns from event data.

SERVICE ACTIVITIES

1. Session Chair, IEEE Big Data 2018.

2. PC member and reviewer, CIKM, ICDM, ECIR, ICMLA, AAAI, IJCAI, EMNLP, WSDM.

PUBLICATIONS

Paper Awards

1. Best student paper award at the 2017 IEEE International Conference on Services Computing (IEEE SCC 2017); Conf paper: Q. Wang, W. Zhou, C. Zeng, T. Li, L. Shwartz and G. Y. Graharnik, "Constructing the Knowledge Base for Cognitive IT Service Management."

Articles in Refereed Journals

1. Qifeng Zhou, Xiang Liiu, **Qing Wang**, "Interpretable Sentence Pair Models Based on Attention Mechanism", Information Sciences, 2020.

2. **Qing Wang**, Chunqiu Zeng, Wubai Zhou, Tao Li, S. S. Iyengar, Larisa Shwartz, Genady Ya. Graharnik, "Online Interactive Collaborative Filtering Using Multi-armed Bandit with Dependent Arms", IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE), 2018.

3. Hongjun Li, Biao Cai, Shaojie Qiao, Shu-Ching Chen, **Qing Wang**, "ExTCKNN: Expanding Tree-based Continuous K Nearest Neighbor Query in Road Networks with Traffic Rules", IEEE Access, 2018.

4. Tao Li, Chunqiu Zeng, Wubai Zhou, Wei Xue, Yue Huang, Zheng Liu, Qifeng Zhou, Bin Xia, **Qing Wang**, Wentao Wang, Xiaolong Zhu, "FIU-Miner (a fast, integrated, and user-friendly system for data mining) and its applications", Knowledge and Information Systems (KIAS), 2016.

Conferences Proceedings Papers

1. **Qing Wang**, Larisa Shwartz, Genady Ya. Graharnik, Michael Nidd, Jinho Hwang. "Leveraging AI in Service Automation Modeling: from Classical AI Through Deep Learning to Combination Models", International Conference on Service-Oriented Computing (ICSOC 2019). Springer, Toulouse, France, 2019.

2. Kaylin Hagopian, **Qing Wang**, Yupeng Gao, Tengfei Ma, Lingfei Wu. "Learning Logical Representations from Natural Languages with Weak Supervision and Back Translation", Knowledge Representation & Reasoning Meets Machine Learning Workshop at NeurIPS, Vancouver, Canada, 2019.

3. **Qing Wang**, Chunqiu Zeng, S. S. Iyengar, Tao Li, Larisa Shwartz, Genady Ya. Graharnik, "AISTAR: An Intelligent System for Online IT Ticket Automation Recommendation", IEEE International Conference on Big Data (IEEE BigData 2018), Seattle, Washington, USA, 2018.

4. **Qing Wang**, Tao Li, S. S. Iyengar, Larisa Shwartz, Genady Ya. Graharnik, "Online IT automation recommendation Using Hierarchical Multi-armed Bandit Algorithms", SIAM International Conference on Data Mining (SDM 2018), San Diego, California, USA, 2018.

5. Wei Xue, Wubai Zhou, Tao Li, **Qing Wang**, "MTNA: A Neural Multi-Task Model for Aspect Category Classification and Aspect Term Extraction on Restaurant Reviews", International Joint Conference on Natural Language Processing (IJCNLP 2017), Taipei, Taiwan, 2017.

6. **Qing Wang**, Wubai Zhou, Chunqiu Zeng, Tao Li, Larisa Shwartz, Genady Ya. Graharnik, "Constructing the Knowledge Base for Cognitive IT Service Management", IEEE International Conference on Services Computing (IEEE SCC 2017), Honolulu, Hawaii, USA, 2017. [**Best Student Paper Award**]

7. Wubai Zhou, Wei Xue, Ramesh Baral, **Qing Wang**, Chunqiu Zeng, Tao Li, Jian Xu, Zhen Liu, Larisa Shwartz, Genady Ya. Graharnik, "STAR: A System for Ticket Analysis and Resolution", ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (ACM SIGKDD 2017), Halifax, Nova Scotia, Canada, 2017.

8. Chunqiu Zeng, **Qing Wang**, Shekoofeh Mokhtari, Tao Li, "Online Context-Aware Recommendation with Time Varying Multi-Armed Bandit", ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (ACM SIGKDD 2016), San Francisco, California, USA, 2016.

9. Tao Li, Wubai Zhou, Chunqiu Zeng, **Qing Wang**, Qifeng Zhou, Dingding Wang, Yue Huang, Jia Xu, Wentao Wang, Minjing Zhang, Steve Luis, Shu-Ching Chen and Naphtali Rishe, "DI-DAP: An Efficient Disaster Information Delivery and Analysis Platform in Disaster Management", ACM International Conference on Information and Knowledge Management (ACM CIKM 2016), Indianapolis, Indiana, USA, 2016.

10. Chunqiu Zeng, **Qing Wang**, Wentao Wang, Tao Li, Larisa Shwartz, "Online Inference for Time-varying Temporal Dependency Discovery from Time Series", IEEE International Conference on Big Data (IEEE Big Data 2016), Washington D.C., USA, 2016.

Patents

1. Hongtan Sun, Larisa Shwartz, Rohit Madhukr Khandekar, **Qing Wang**, Bing Zhou, Assessing Technical Risk in Information Technology Service Management Using Visual Pattern Recognition." U.S. Patent 16/571088, issued 2019.

2. **Qing Wang**, et al., "A systemt and method to automatically map operational records without configuration information to topology graph", issued 2019.

3. **Qing Wang**, et al., "System and Method for just in time assembly of transaction for micro-services system', issued 2019.

4. **Qing Wang**, et al., "System and Method for Interactive Diagnosis of an Issue Through Collective Intelligence', issued 2020.

PROGRAMMING SKILLS

Languages:	Java (proficient), Python (familiar), Javascript (familiar)	Frameworks:	Tensorflow, Apache Hadoop, Map Reduce, Tomcat, jQuery
DB:	DB2, MySQL, Redis	Tools:	Git, SVN

HONORS & AWARDS

1. **IBM Outstanding Technical Achievement Award**. (Nov. 2019)
2. **FIU SCIS Overall Outstanding Graduate Student Award**. (Nov. 2018)
3. IEEE SCC **Best Student Paper Award**. (Jun. 2017)

4. NIPS **Travel Award**. (Dec. 2019)
5. **FIU Dissertation Year Fellowship**. (Aug. 2018 - Aug. 2019)
6. SIAM **Student Travel Award**. (May. 2018)
7. SIGKDD **Student Travel Award**. (Jul. 2017)
8. FIU GPSC **Student Travel Award**. (Nov. 2018)
9. FIU GPSC **Student Travel Award**. (Jul. 2017)
10. **DiDi Beijing-IEEE Future Elite Forum Invitation**. (May. 2018)
11. The Winner of Poster Presentation in Engineering Computing of **GSAW 2017 Scholarly Forum**. (Mar. 2017)