Yaqing Wang

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EDUCATION

Ph.D. 2016 - present, Computer Science and Engineering, University at Buffalo, Buffalo, NY, USA
Advisor: Prof. Jing Gao

M.S. 2014 - 2016, Statistics, University of California, San Diego, CA, USA

B.S. 2009 - 2013, Mathematics, Shandong University, Jinan, Shandong, China

RESEARCH INTERESTS

I am broadly interested in data science and artificial intelligence with a focus on data mining and machine learning. In particular, I am interested in Data Integration, Information Trustworthiness Evaluation, Knowledge Graph, Natural Language Processing, Meta-Learning and Generative Models.

RESEARCH EXPERIENCE

Data Mining and Machine Learning Lab, SUNY Buffalo Sep. 2016 - present
Research Assistant Advisor: Jing Gao

Project i: *Fake News Detection on new and time-critical events*

- Proposed a novel model which can identify fake news based on multi-modal features and learn transferable features among events via *adversarial learning* [KDD'18].
- Proposed a novel framework which can learn weak supervision from user reports for fake news detection and further improve the quality of supervision via reinforcement learning [AAAI'20].

Project ii: *Knowledge Graph Validation*

- Working on cross-checking the knowledge in the large scale knowledge graph with the help of existing external knowledge graphs. The aim of this project is to validate the enormous knowledge automatically with affordable human efforts.
- One paper is submitted to PVLDB, in Revision.

Project iiii: *Truth Discovery*

- Proposed a novel *distributed* truth discovery framework, which can infer true information from noisy and conflicting distributed data by incorporating learned *uncertainty* values of objects in an unsupervised manner.
- Empirically show that the proposed framework can efficiently estimate object truths in the distributed environments.
- One paper is accepted by ICDM'17.

Product Graph Team, Amazon, Seattle May. 2019 - Aug. 2019
Applied Scientist Intern

- Proposed a novel task latent variable meta-learning framework which can capture task uncertainty in a principled way and infer correctness of product attribute values based on product textual description with limited labeled data.
- Mentor: Dr. Xin Luna Dong, Dr. Xian Li and Dr. Yifan Ethan Xu.

COURSE TAKEN

Computer Science

- Probabilistic Reasoning&Learning, Machine Learning, Data Mining, Database, Deep Learning and Reinforcement Learning, Advanced Topics in Scalable Bayesian Methods, Parallel Computing, Distributed System

Statistics&Mathematics

- Applied Statistics, Statistical Learning, Mathematical Statistics, Probability Theory, Numerical Optimization, Numerical Computing Method, Operational Research

PUBLICATIONS

Preprints & Submissions

1 **Yaqing Wang**, Fenglong Ma, Jing Gao. *Knowledge Graph Validation via Multi-Graph Representation Learning*, Submitted to PVLDB 2020, Revision.

2 Hanbo Li*, **Yaqing Wang***, Changyou Chen, Jing Gao. *AIM: Adversarial Inference by Matching Priors and Conditionals.* (* Equal Contribution)

Peer-Reviewed Conference and Journal Papers (* equal contribution)

AAAI20 **Yaqing Wang**, Weifeng Yang, Fenglong Ma, Jin Xu, Bin Zhong, Qiang Deng, Jing Gao. *Weak Supervision for Fake News Detection via Reinforcement Learning.* Special Track on AI for Social Impact, Proceedings of the Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI 2020), full oral paper. Acceptance rate = 27.0%

SDM20 Fenglong Ma*, **Yaqing Wang***, Jing Gao, Houping Xiao, Jing Zhou. *Rare Disease Prediction by Generating Quality-Assured Electronic Health Records.* Proceedings of the SIAM International Conference on Data Mining (SDM 2020), Cincinnati, Ohio, May 7-9, 2020. Acceptance rate = 24.0%

Bioinformatics Guangxu Xun, Kishlay Jha, Ye Yuan, **Yaqing Wang** and Aidong Zhang. *MeSHProbeNet: A Self-attentive Probe Net for MeSH Indexing.* **Bioinformatics**, Oxford University Press, 2019

KDD19 Kishlay Jha, Guangxu Xun, **Yaqing Wang**, Aidong Zhang. *Hypothesis Generation From Text Based On Co-Evolution Of Biomedical Concepts.* Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD 2019). Acceptance rate = 170/1200 = 14.2%

BIBM18a Fenglong Ma, **Yaqing Wang**, Houping Xiao, Ye Yuan, Radha Chitta, Jing Zhou and Jing Gao. *A General Framework for Diagnosis Prediction via Incorporating Medical Code Descriptions.* Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Madrid, Spain, December, 2018. Acceptance rate: 105/534 = 19.6%

BIBM18b Ye Yuan, Fenglong Ma, Guangxu Xun, **Yaqing Wang**, Kebin Jia, Lu Su and Aidong Zhang. *Multivariate Sleep Stage Classification using Hybrid Self-Attentive Deep Learning Networks* Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Madrid, Spain, December, 2018. Acceptance rate: 105/534 = 19.6%

ICDM18a Kishlay Jha*, **Yaqing Wang***, Guangxu Xun, and Aidong Zhang. *Interpretable Word Embeddings For Medical Domain.* Proceedings of the 18th IEEE International Conference on Data Mining (ICDM), Singapore, November 2018. Acceptance rate: 19.94%

ICDM18b Ye Yuan, Guangxu Xun, Fenglong Ma, **Yaqing Wang**, Nan Du, Kebin Jia, Lu Su and Aidong Zhang. *MuVAN: A Multi-view Attention Network for Clinical Temporal Data*. IEEE International Conference on Data Mining (ICDM), Singapore, November 2018. Acceptance rate: 8.86%

MobiCom18 Wenjun Jiang, Chenglin Miao, Fenglong Ma, Shuochao Yao, **Yaqing Wang**, Ye Yuan, Hongfei Xue, Chen Song, Xin Ma, Dimitrios Koutsonikolas, Wenyao Xu, and Lu Su. *Towards Environment Independent Device Free Human Activity Recognition*. The 24th Annual International Conference on Mobile Computing and Networking (MobiCom), New Delhi, India, October 29-November 2, 2018. Acceptance rate: 42/187 = 22%

KDD18a **Yaqing Wang**, Fenglong Ma, Zhiwei Jin, Ye Yuan, Guangxu Xun, Kishlay Jha, Lu Su and Jing Gao. *EANN: Event Adversarial Neural Networks for Multi-Modal Fake News Detection*. Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD 2018), London, United Kingdom, August, 2018. Acceptance rate: 112/496 = 22.6%

KDD18b Kishlay Jha, Guangxu Xun, **Yaqing Wang**, Vishrawas Gopalakrishnan, Aidong Zhang. *Concepts-Bridges: Uncovering Conceptual Bridges Based on Biomedical Concept Evolution*. Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), London, United Kingdom, August, 2018. Acceptance rate: 107/983 = 10.9%

ICDM17 **Yaqing Wang**, Fenglong Ma, Lu Su, Jing Gao. *Discovering Truths from Distributed Data*. IEEE International Conference on Data Mining (ICDM), New Orleans, USA, November 2017. Acceptance rate: 72/778 = 9.25 %

PROGRAMING LANGUAGES

Java, C, C++, Python, Matlab, R, Pytorch, Tensorflow, UNIX shell scripting, MySQL, Hadoop

PROFESSIONAL SERVICE

- Journal Reviewer
  - IEEE Access, VLDB
- Conference Reviewer
  - ICML (2020)
- External Reviewer
  - SIGKDD (2018, 2019), PVLDB (2018, 2019), WWW (2017, 2018)
  - WSDM (2018, 2019), ICDM (2018, 2019)
  - SDM (2018), AAAI (2016, 2017, 2018, 2019, 2020), IJCAI (2018, 2019)
- Conference Volunteer
  - KDD 2018, ICDM 17

HONORS & AWARDS

2020 Student Travel Award, AAAI, New York City, New York, USA

2018 Student Travel Award, KDD, London, UK

2017	Student Travel Award, ICDM, New Orleans, Louisiana, USA
2016-2020	Presidential Fellowship from SUNY Buffalo
2013	Honorable Mention Prize in Mathematical Contest in Modeling, the Consortium for Mathematics and Its Application (COMAP), USA