

JIAMING QU

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RESEARCH INTEREST

Information Retrieval, Machine Learning, Data Mining, Natural Language Processing

EDUCATION

University of North Carolina at Chapel Hill *August 2019 - Present*
Ph.D. in Information and Library Science

University of North Carolina at Chapel Hill *August 2017 - May 2019*
M.S. in Information Science

Nanjing Forestry University *September 2013 - June 2017*
B.S. in Information Management and System

RESEARCH PROJECTS

Interpretable Information Retrieval *September 2019 - February 2020*
Graduate Research Project *Advisor: Dr. Yue Wang & Dr. Jaime Arguello*

- Research on explaining search result relevance by modeling human experts' internal decision-making processes on the biomedical literature searching task
- Proposed a variant decision tree model with better interpretability and comparable prediction performance to sophisticated learning-to-rank models
- Developed intermediate classifiers serving as the decision tree's nodes with manually designed features

Relevant News Recommendation *July 2019 - August 2019*
TREC 2019 News Track *Advisor: Dr. Yue Wang*

- Research on finding relevant news accurately from a huge corpus given a target news
- Implemented the initial retrieval in Lucene with query terms generated from the news text
- Trained a learning-to-rank model to re-rank the initial result with text features and context features
- Best run achieved a NDCG@5 of 0.59 (2018 best run achieved 0.46)

Semantically Enhanced Information Retrieval *September 2018 - May 2019*
Master's Thesis *Advisor: Dr. Yue Wang*

- Research on incorporating domain knowledge to facilitate PubMed medical literature retrieval
- Proposed a framework of knowledge- and corpus-based query expansion and a *learning-to-rank* model
- Constructed a knowledge graph from the medical literature corpus based on *Named Entity Recognition* and *Relation Extraction* techniques, and used semantic relations to generate expansion terms
- Recipient of Dean's Achievement Award (2 out of 95)

Yelp Businesses Success Prediction *January 2018 - June 2018*
Graduate Research Project *Advisor: Dr. Jaime Arguello*

- Research on predicting future success of restaurants on Yelp after a one-year period
- Worked on multi-level feature generation and selected informative ones from text and numeric data
- Conducted sentiment analysis of 4,736,897 pieces of Yelp reviews with NLTK and Word2vec toolkits
- Corresponding paper was published in *PEARC 18*

POSITION OF RESPONSIBILITY

School of Information and Library Science, UNC
Research Assistant

August 2019 - Present
Chapel Hill, NC

- Carry out research projects with Dr. Yue Wang and Dr. Jaime Arguello on Machine Learning, Natural Language Processing and Data Mining in various domains
- Study *state-of-the-art* algorithms, design & conduct experiments and write research papers

Credit Suisse LLC
NLP Specialist Intern

January 2019 - May 2019
Raleigh, NC

- Implemented web crawler in Python to scrape stock-related data from websites and cleaned the data
- Conducted topic modeling of news to explore reasons of stock suspension and delisting
- Conducted sentiment analysis of news and analyzed the relation with stock price trends

PUBLICATIONS

Qu, J., Wang, Y.. UNC SILS at TREC 2019 Precision Medicine Track, in Proceedings of the 28th Text Retrieval Conference (TREC), 2019. (Notebook paper)

Qu, J., Wang, Y.. UNC SILS at TREC 2019 News Track, in Proceedings of the 28th Text Retrieval Conference (TREC), 2019. (Notebook paper)

Lu, X., **Qu, J.**, Jiang, Y., Zhao, Y. (2018, July). Should I Invest it?: Predicting Future Success of Yelp Restaurants. In *Proceedings of the Practice and Experience on Advanced Research Computing* (p. 64). ACM.

Wang, L., Zhao, Q., Wen, Z., **Qu, J.**. RAFFIA: Short-term Forest Fire Danger Rating Prediction via Multiclass Logistic Regression. *Sustainability*, 2018, 10, 4620.

Zhang, L., **Qu, J.**, Sheng, H., Yang, J., Wu, H., Yuan, Z. (2019). Urban mining potentials of university: In-use and hibernating stocks of personal electronics and students disposal behaviors. *Resources, Conservation and Recycling*, 143, 210-217.

TECHNICAL STRENGTHS

Programming Languages Python, JAVA, R, SQL, PHP, JavaScript, Shell

AWARD

Dean's Achievement Award for the best Master's Thesis May 2019

Distinguished Bachelor's Thesis June 2017

REFERENCES

Dr. Yue Wang (wangyue@email.unc.edu) Supervisor

Dr. Jaime Arguello (jarguell@email.unc.edu) Supervisor