

Chen Qu

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Education

University of Massachusetts Amherst M.S./Ph.D. program in Computer Science Advisor: Prof. W. Bruce Croft, ACM Fellow	AMHERST, MA, US <i>Sept 2017 – Present</i>
Dalian University of Technology B.E. in Computer Science and Technology	DALIAN, CHINA <i>Sept 2013 – Jul 2017</i>

Internship Experience

Alibaba Group Research Intern (Natural Language Processing) I worked as a research intern on natural language processing at the AliMe team at Alibaba Group. AliMe is a conversational assistant designed mainly for customer service in the E-commerce domain. It is able to take voice and text input, incorporate context to QA, and support multi-round interactions. I worked on reinforcement learning and transfer learning for retrieval based question answering.	HANGZHOU, CHINA <i>May 2018 – Aug 2018</i>
Tencent Software Engineer Intern (Backend) I worked as a software engineer intern at the Mobile Internet Group in Tencent. I worked on a large-scale web crawler and the backend of a Content Management System using C++ to manage a knowledge base for a personal assistant App.	SHENZHEN, CHINA <i>Jul 2016 – Aug 2016</i>

Research Experience

Center for Intelligent Information Retrieval, UMass Amherst M.S./Ph.D. Student and Research Assistant Advisor: Prof. W. Bruce Croft I am working with Prof. W. Bruce Croft on information retrieval, conversational search, and question answering. We built a benchmark dataset called <i>MSDialog</i> on multi-turn QA dialogs and characterized the patterns of user intent dynamics in information-seeking conversations. We also built a user intent prediction model to effectively detect user intent in information-seeking conversations.	AMHERST, MA, US <i>Sept 2017 – Present</i>
DUT Information Retrieval Lab, Dalian University of Technology Undergraduate Research Assistant Advisor: Dr. Kan Xu and Prof. Yuan Lin I worked with Dr. Kan Xu and Prof. Yuan Lin on information retrieval and learning to rank. We proposed and implemented a query expansion method based on word embedding. We also developed and integrated several feature generation methods for documents reranking in a patent retrieval system with promising results on TREC-CHEM dataset.	DALIAN, CHINA <i>Dec 2016 – Jun 2017</i>
DUT Natural Language Processing Lab, Dalian University of Technology Undergraduate Research Assistant Advisor: Prof. Lishuang Li I worked with Prof. Lishuang Li on natural language processing and named-entity recognition. We created a system to recognize chemical names in patents using Conditional Random Fields (CRFs). We used Python to extract more than two dozen of high-quality features for the learning and testing process. We participated in BioCreative evaluation and received high F-scores.	DALIAN, CHINA <i>Jul 2015 – Sept 2015</i>

Publications

1. **Chen Qu**, Feng Ji, Minghui Qiu, Liu Yang, Zhiyu Min, Haiqing Chen, Jun Huang and W. Bruce Croft. Learning to Selectively Transfer: Reinforced Transfer Learning for Deep Text Matching. Accepted to the 12th ACM International Conference on Web Search and Data Mining (**WSDM 2019**), Melbourne, Australia. February 11-15. **Full Paper**.
2. A paper on user intent classification in dialogs under an information-seeking setting. *Submitted* to ACM SIGIR Conference on Human Information Interaction and Retrieval (**CHIIR 2019**), **Full Paper**.
3. A paper on answer presentation and interaction for non-factoid QA. *Submitted* to ACM SIGIR Conference on Human Information Interaction and Retrieval (**CHIIR 2019**), **Short Paper**.
4. **Chen Qu**, Liu Yang, W. Bruce Croft, Johanne R Trippas, Yongfeng Zhang, Minghui Qiu. Analyzing and Characterizing User Intent in Information-seeking Conversations, In Proceedings of the 41th International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR 2018**), Ann Arbor, Michigan, U.S.A. July 8-12, 2018. **Short Paper**.
5. Liu Yang, Minghui Qiu, **Chen Qu**, Jiafeng Guo, Yongfeng Zhang, W. Bruce Croft, Jun Huang, Haiqing Chen. Response Ranking with Deep Matching Networks and External Knowledge in Information-seeking Conversation Systems, In Proceedings of the 41th International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR 2018**), Ann Arbor, Michigan, U.S.A. July 8-12, 2018. **Full Paper**.
6. Kan Xu, Yuan Lin, **Chen Qu**, Bo Xu and Hongfei Lin, Research on Query Expansion Methods in Patent Retrieval Using Word Embedding. In proceedings of 23rd China Conference on Information Retrieval (**CCIR 2017**). Shanghai, China, July 12-14, 2017. **Short Paper**.
7. Yuankai Guo, Shiyi Zhao, **Chen Qu** and Lishuang Li, Recognition of Chemical Entity Mention in Patents Using Feature-rich CRF. In proceedings of the BioCreative V.5 Challenge Evaluation Workshop (**BioCreative V.5**). Barcelona, Spain, April 26-27, 2017. **Short Paper**.
8. **Chen Qu**, Tianfu Zheng and Liuke Jin, FRCRF: A Feature-rich CRF-based Solution for Chemical Entity Mention in Patent Task. In proceedings of the Fifth BioCreative Challenge Evaluation Workshop (**BioCreative V**). Sevilla, Spain, September 9-11, 2015. **Short Paper**.
9. Zhenchao Jiang, Liuke Jin, Lishuang Li, Meiyue Qin, **Chen Qu**, Jieqiong Zheng and Degen Huang, A CRD-WEL System for Chemical-disease Relations Extraction. In proceedings of the Fifth BioCreative Challenge Evaluation Workshop (**BioCreative V**). Sevilla, Spain, September 9-11, 2015. **Full Paper**.

Technical Skills

- **Programming:**
 - Proficient: Python, SQL
 - Skillful: Java, C/C++, \LaTeX
 - Experienced: JavaScript, HTML, CSS, PHP, MATLAB, Android Developing
- **Systems:** Linux/Unix, Windows, MySQL
- **Frameworks & Tools:** Numpy&SciPy, Pandas, Scikit-learn, TensorFlow, Keras, NLTK, CRF++, RankLib.

Selected Courses

- University of Massachusetts Amherst:** Neural Networks, Machine Learning, Information Retrieval, Advanced Algorithm, Advanced Information Assurance, Software Engineering
- Dalian University of Technology:** Mathematical Analysis for Engineering, Linear Algebra and Analytic Geometry, Discrete Mathematics, Compile Principles, Computer Network, Computer Organization Principles, Object-oriented Programming, Operating Systems, Principle of Database System, Hardware Comprehensive Training, Computer System Structure, Software Comprehensive Training, Introduction to Linux, Artificial Intelligence, Computer Graphics, Digital Image Processing
- Independent Coursework:** Applied Machine Learning in Python (Coursera), Text Mining and Analytics (Coursera), Machine Learning (Coursera)

Languages

Chinese (*mother tongue*), English (*full professional proficiency*).