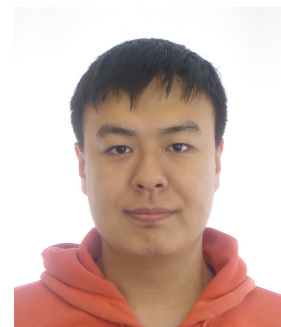# Curriculum Vitae

Qiuchi LI

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Education

10/2017 --	PhD Student & Marie Skłodowska-Curie Research Fellow, University of Padua, Padua, Italy.
10/2015 -- 07/2017	Research Student. ASAP Group, Department of Computing & Communications, the Open University, Milton Keynes, UK.
01/2014 – 05/2014	Exchange Student. Department of Electronic and Computer Engineering, University of Alberta, Edmonton, Canada.
09/2011 -- 09/2015	Bachelor degree. Department of Electronic Engineering (EE), Tsinghua University, Beijing, China.

Research Interests

My general research interests are Information Retrieval (IR), Natural Language Processing (NLP) and Machine Learning (ML).

I am currently working in an interdisciplinary field combining quantum theory, natural language processing, tensor network and deep learning. In particular, I am investigating Quantum-theoretic frameworks for language understanding, which consists of implementing various quantum-inspired approaches to build complex-valued representations for textual and multimodal data, and addressing downstream IR and NLP tasks by instrumenting quantum-like processes with neural networks or tensor networks with complex-valued components. The approaches are expected to have decent performance and high extent of interpretability on different tasks.

Research Experience

10/2015-- 10/2017	Research Student. Department of Computing & Communications, the Open University, Milton Keynes, UK.

The project aims at recommending the software change locations for an input non-source code artefacts, such as issue description or commit summary. Viewing it as an IR problem with the unstructured textual description as query and structured source code elements as target documents, I proposed deep learning-based frameworks to learn to find relevant software changes to the target textual descriptions.

Supervised by Prof. Bashar NUSEIBEH and Dr. Yijun YU

08/2014--09/2015	Visiting Student. School of Computer Sciences and Technology, Tianjin University, Tianjin, China

I proposed a novel Quantum-based session search model in IR with a new training method, and proved its effectiveness by experimenting on the query log dataset.

Supervised by prof. Dawei SONG

10/2014--10/2015	Research Program, Department of Electronic Engineering, Tsinghua University, Beijing, China

Opinion Mining and Sentiment Analysis, supported in part by the National High-Tech. R&D Program of China under Grant 2012AA011004, in part by the National Natural Science Funds of China under Grant 61170197.

Supervised by Prof. Ji WU

06/2014--08/2014	Global Engagement in Academic Research (GEAR) Program, Department of Computing Science (CS), North Carolina State University, Raleigh, USA

I conducted a systematic comparison of different Causal Inference Algorithms on Gene Expression Data, and set up novel evaluation metrics regarding different types of algorithm output.

Supervised by Prof. Nagiza SAMATOVA

09/2013--06/2014	Student Research Training (SRT) program, Institute of Microelectronics, Tsinghua University, Beijing, China
	The project aims at realizing a human-computer interaction system based on a novel finger touch recognition technique. both the theoretical exploration and the programming of the system.
	Supervised by Prof. Xiang XIE

Publications

Chen Zhang, Qiuchi Li and Dawei Song. (2019). "Syntax-Aware Aspect-Level Sentiment Classification with Proximity-Weighted Convolution Network." To appear in *The 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR'19)*.

Yazhou Zhang, Qiuchi Li, Peng Zhang, Panpan Wang and Dawei Song. (2019). "Quantum-inspired Interactive Networks for Conversational Sentiment Analysis." To appear in *The 28th International Joint Conference on Artificial Intelligence (IJCAI'19)*.

Qiuchi Li, Benyou Wang and Massimo Melucci. (2019). "CNM: An Interpretable Complex-valued Network for Matching." In *2019 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT'19)*.

Dongsheng Wang, Qiuchi Li, Lucas Chaves Lima, Jakob Grue Simenson and Christina Lioma. (2019). "Contextual Compositionality Detection with External Knowledge Bases and Word Embeddings." In *WWW'19 International Workshop on Deep Learning for Graphs and Structured Data Embedding (DL4G-SDE)*.

Benyou Wang, Qiuchi Li, Massimo Melucci and Dawei Song. (2019). "Semantic Hilbert Space for Text Representation Learning." In *The World Wide Web Conference 2019 (WWW'19)*.

Qiuchi Li, Massimo Melucci and Prayag Tiwari. (2018). "Quantum Language Model-based Query Expansion." In *The 4th ACM SIGIR International Conference on the Theory of Information Retrieval (ICTIR 2018)*.

Emanuele Di Buccio, Qiuchi Li, Massimo Melucci and Prayag Tiwari. (2018). "Binary Classification Model Inspired from Quantum Detection Theory." In *The 4th ACM SIGIR International Conference on the Theory of Information Retrieval (ICTIR 2018)*.

Qiuchi Li, Sagar Uprety, Benyou Wang and Dawei Song. (2018). "Quantum-inspired Complex Word Embedding." In *the 3rd ACL Workshop on Representation Learning for NLP (RepL4NLP)*.

Qiuchi Li, Jingfei Li, Peng Zhang, and Dawei Song. (2015). Modeling Multi-query Retrieval Tasks Using Density Matrix Transformation. In *Proceedings of the 38th International ACM SIGIR Conference on Research and Development in Information (SIGIR'15)*.

Qiuchi Li, Qiyu Zhi, Miao Li. (2015). A combined sentiment classification system for SIGHAN-8. *In ACL International Joint Conference on Natural Language Processing (ACL-IJCNLP) 2015*.

Awards and Scholarships

06/2019	Best Explainable NLP Paper Award of the 2019 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT'19)
09/2018	Proceedings co-chair of the 4th ACM SIGIR International Conference on the Theory of Information Retrieval (ICTIR'18)
04/2013	Second Prize in the 15th "Challenge Cup" science & technology innovation competition for college students, Tsinghua University, Beijing, China
11/2012	Outstanding Student Scholarship of Tsinghua University

Skills

Languages:	Chinese/English
English Proficiency Level:	IELTS: 7
	TOFEL: 103
	GRE: Verbal 155+ Quantum 168+ Writing 3.5
Computer languages:	Python (PyTorch/TensorFlow/Keras)
	Java, R, C/C++, Matlab Altium/Pspice/Orcad, verilog

Extracurricular Activities

Go Player: Second-class athletes of China, Tsinghua University Go Team Member, Co-Champion of the 43rd London Open Go Tournament

Jianzi (Shuttlecock) Player: Finalist of the 8th National Traditional Sports Games in Beijing, Champion & Record Setter of Tsinghua University Freshmen Sports Meeting

Bridge Player: 10th place in the Bridge Championship for High School Students, Beijing, China