

QIUCHI LI (李秋池)

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EDUCATION

University of Padua

October 2017 - October 2020

Ph.D in Engineering

Department of Information Engineering

Tsinghua University

September 2011 - July 2015

Bachelor of Engineering

Department of Electronic Engineering

PROFESSIONAL APPOINTMENTS

Beijing Institute of Technology

Sep 2025 -

Tenure-track Professor

Department of Computer Science

University of Copenhagen

January 2023 - May 2025

Assistant Professor

Department of Computer Science

University of Copenhagen

January 2021 - December 2022

Postdoc

Department of Computer Science

SKILLS AND INTERESTS

Research Interests: Natural Language Processing, Information Retrieval, Machine Learning, Quantum Cognition and Interaction.

Programming Languages: Python, Java, R, C, C++, MATLAB

Languages: Chinese (native), English (Fluent)

GRANTS

Language Representation Modelling Based on Quantum Cognitive Computing *January 2026 - Dec 2028*

- National Nature Science Foundation of China, Science Fund Program for Excellent Young Scientists (Overseas)

- Role: Non-Tenure track assistant professor, primarily involved in development of computational models and algorithms for efficient search based on the photonic chips

Integrated Optical Neural Networks for Information Retrieval (SearchLight) *January 2023 - Aug 2024*

- Villum Foundation
- Role: PI

Machine Learning for Personalized and Persuasive Job Recommendation (JobMatch) *January 2021 - Mar 2024*

- Danmarks Innovationsfond 0175-00005A
- Role: Postdoc/Non-Tenure track assistant professor, primarily involved in development of automatic generation of recruitment emails

Quantum Information Access and Retrieval Theory (QUARTZ) *October 2017 - September 2020*

- Supported by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 721321.
- Role: Early-stage Researcher (ESR)

Quantum Information Access and Retrieval Theory and Applications *April 2018 - January 2021*

- Intergovernmental Cooperation and Innovation Program supported by the China Innovation Funding 2017YFE0111900.
- Role: Student Researcher

RESEARCH EXPERIENCE

Visiting Researcher, Huawei Noah's Ark Lab, China *January 2021 - January 2022*

- Quantum-inspired Pre-trained Language Models
- Advisor: Prof. Qun Liu

Visiting Researcher, University of Montreal, Canada *January 2020 - April 2020*

- Quantum-inspired models for multimodal sentiment analysis
- Advisor: Prof. Jian-yun Nie

Visiting Researcher, University of Copenhagen, Denmark *August 2019 - December 2019*

- Quantum-inspired models for multimodal sentiment analysis, Advisor: Prof. Christina Lioma

Visiting Researcher, Beijing Institute of Technology, China *January 2019 - March 2019*

- Quantum-inspired models for sentiment analysis. Advisor: Prof. Dawei Song

Early-stage Researcher (ESR), University of Padua, Italy *October 2017 - December 2020*

- Investigation of quantum-theoretic frameworks for accessing and retrieving multimodal data. Advisor: Prof. Massimo Melucci

TEACHING

- Big Data Techniques** *March 2026 - May 2026*
- Matrix Analysis** *May 2026 - July 2026*
- Introduction to Artificial Intelligence** *October 2025 - January 2026*
- Big Data Analysis and Applications** *September 2025 - December 2025*
- Python Programming for Data Science** *2022 - 2025*
- Introduction to Python programming basics and its applications to data science. Targeted for undergraduate students from department of Health Informatics, University of Copenhagen.
- Quantum NLU summer course** *July 2021*
- Online English summer course on quantum theory and natural language understanding for master students at Beijing Institute of Technology (BIT).
- Radiometer Data Science course** *May 2021 - June 2021*
- Theory and exercise lectures on basic data science, for employees at Radiometer Medical (Radiometer Medical ApS)

TALKS AND PRESENTATIONS

- **Quantum-inspired Language Representation Learning.** Huawei Noah's Ark Lab, Beijing, China *March 2021*
- **CNM: An Interpretable Complex-Valued Network for Matching.** Best paper session, NAACL 2019, Minneapolis, USA *June 2019*
- **Quantum-inspired Natural Language Processing and Information Retrieval.** Bytedance AI Lab, Beijing, China. *June 2019*

PROFESSIONAL SERVICES

- PC member, **ECIR 2023-2024, SIGIR 2023-2026**
- Proceedings co-chair, **ICTIR 2018** and **IIR 2019**
- Reviewer of many top conferences such as **ACL, EMNLP, ICLR, NeurIPS.**

AWARDS AND HONOURS

- **Marie Skłodowska-Curie Research Fellow** *October 2017 - September 2020*
- **Best Explainable NLP Paper Award** of the 2019 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL) *June 2019*
- **Outstanding Paper Award** of the 2025 Annual Conference of the Association for Computational Linguistics (ACL) *July 2025*
- **Best Paper Honorable Mention Award** of the 8th Chinese Conference on Pattern Recognition and Computer Vision (PRCV) *October 2025*

SELECTED PUBLICATIONS

- Chen Zhang, **Qiuchi Li**, Dawei Song, Yan Gao, Yao Hu. “Towards the Law of Capacity Gap in Distilling Language Models”. The 63rd Annual Meeting of the Association for Computational Linguistics (ACL)(CCF A 类会议), 2025.
- Xiansong Meng, Kwangwoong Kim, **Qiuchi Li**, Po Dong , Ingemar Cox , Christina Lioma , Hao Hu. “Digital-analog hybrid matrix multiplication processor for optical neural networks”. Nature Communications(中科院一区期刊), 2025.
- Chenchen Zhang, Zhan Su, **Qiuchi Li**, Dawei Song, Prayag Tiwari. “Quantum-inspired Neural Network with Hierarchical Entanglement Embedding for Matching”. Under review by *Neural Networks* (中科院一区期刊), 2024.
- Ben Yao, Prayag Tiwari, **Qiuchi Li***. “Self-supervised Pre-trained Neural Network for Quantum Natural Language Processing”. Under review by *Neural Networks* (中科院一区期刊), 2024. (*通讯作者)
- Yaochen Liu, **Qiuchi Li**, Benyou Wang, Yazhou Zhang, and Dawei Song. “A Survey of Quantum-Cognitively Inspired Sentiment Analysis Models. “ ACM Computing Surveys (中科院一区期刊), 2023.
- Yazhou Zhang, Yang Yu, Qing Guo, Benyou Wang, Dongming Zhao, Sagar Uprety, Dawei Song, **Qiuchi Li***, and Jing Qin. “CMMA: Benchmarking Multi-Affection Detection in Chinese Multi-Modal Conversations.” *Advances in Neural Information Processing Systems 36 pre-proceedings (NeurIPS)* (CCF A 类会议), 2023. (*通讯作者)
- Cheng Zhang, **Qiuchi Li**, Lingyu Hua, Dawei Song. “How does Attention Affect the Model?” *Findings of Association for Computational Linguistics (ACL)* (CCF A 类会议), 2021.
- Dimitris Gkoumas, **Qiuchi Li***, Massimo Melucci, Yijun Yu, and Dawei Song*. “Quantum Cognitively Motivated Decision Fusion Framework for Video Sentiment Analysis, ” *Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI)* (CCF A 类会议), 2021.(*通讯作者)
- **Qiuchi Li**, Dimitris Gkoumas, Alessandro Sordani, Jianyun Nie, and Massimo Melucci. “Quantum-inspired Neural Network for Conversational Emotion Recognition, ” *Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI)* (CCF A 类会议), 2021.
- Yaochen Liu, Yazhou Zhang, **Qiuchi Li**, Benyou Wang, and Dawei Song. “What Does Your Smile Mean? Jointly Detecting Multi-Modal Sarcasm and Sentiment Using Quantum Probability.” *Findings of EMNLP* (CCF B 类 & 清华大学 A 类会议), 2021.
- **Qiuchi Li**, Dimitris Gkoumas, Christina Lioma, Massimo Melucci. “Quantum-inspired Multimodal Fusion for Video Sentiment Analysis, ” *Information Fusion* (中科院一区期刊), 2020.
- Benyou Wang, Donghao Zhao, Christina Lioma, **Qiuchi Li**, Peng Zhang, and Jakob Grue Simonsen. “Encoding Word Order in Complex Embeddings,” *International Conference on Learning Representations (ICLR)* (清华大学 A 类会议), 2020.
- Yazhou Zhang, **Qiuchi Li**, Dawei Song, Peng Zhang, and Panpan Wang. “Quantum-Inspired Interactive Networks for Conversational Sentiment Analysis,” *International Joint Conferences on Artificial Intelligence Organization (IJCAI)* (CCF A 类会议), 2019.

- Chen Zhang, **Qiuchi Li**, and Dawei Song. “Aspect-Based Sentiment Classification with Aspect-Specific Graph Convolutional Networks.” *International Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)* (CCF B类 & 清华大学 A类会议), 2019.
- **Qiuchi Li**, Benyou Wang, and Massimo Melucci. “CNM: An Interpretable Complex-Valued Network for Matching.” *The North American Chapter of the Association for Computational Linguistics (NAACL)* (CCF C类 & 清华大学 B类会议), 2019. (**Best Explainable NLP Paper**)
- **Qiuchi Li**, Jingfei Li, Peng Zhang, and Dawei Song. “Modeling Multi-Query Retrieval Tasks Using Density Matrix Transformation,” *International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR)* (CCF A类会议), 2015.