

## EDUCATION

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### University of Birmingham

Ph.D. in School of Engineering

Birmingham, UK

Sep. 2016–Dec. 2021

- Thesis title: “Computer Analysis of Children’s Non-Native English Speech for Language Learning and Assessment”.
- Supervisors: Prof. Martin Russell, Dr Peter Jančovič.

### University of Science and Technology of China (USTC)

MSc in Department of Electronic Engineering and Information Science (EEIS)

Hefei, China

2014–2016

- Project title: “Deep Learning of ASR for Children’s Speech”.
- Supervisors: Prof. Ian McLoughlin, Dr Wu Guo, Weighted Score: 89/100.

### University of Science and Technology of China (USTC)

B.S. in Department of EEIS

Hefei, China

2010–2014

- GPA: 3.68/4.30, Weighted Score: 86.64/100, Rank: 34/133.

## WORK EXPERIENCE

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### Engineering Department of the University of Cambridge

Research Associate

Cambridge, UK

Apr. 2021–Current

- Working on the Automated Language Teaching and Assessment (ALTA) project, funded by Cambridge Assessment.
- Compared grammar errors in prompt-response style and conversational style language tests.
- Working on speaker diarisation for conversational style language tests.

### Trinity College Dublin

Part-time Research Assistant(remotely)

Dublin, Ireland

May 2020–Apr. 2021

- Developed Automatic Speech Recognition systems for Irish, improved system performance from a WER of 61.98% to 14.33%.
- Created different lexicons for the three major dialects of Irish.
- Built a keyword spotting system for a list of Irish vocabulary.

### Amazon Development Center

Applied Scientist Intern

Cambridge, UK

Dec. 2018–Mar. 2019

- Worked on natural language generation and speech synthesis in the TTS Research group.

Speech Scientist Intern

Jul. 2018–Nov. 2018

- Worked on active learning for acoustic modelling in the ASR group.

## TECHNICAL STRENGTHS

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**Programming (advanced):** Python, Perl, C, MATLAB, Shell.

**Tools/Software:** Kaldi, THEANO, HTK, MXNet, TensorFlow.

## ACADEMIC EXPERIENCE

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- Hosted a poster session in UK Speech 2019.
- One of the organisers of 2018 Spoken CALL Shared Task.
- Presented posters and papers at international conferences: Interspeech 2018, SLaTE 2017/2019, UK Speech 2015/2017/2018/2019.
- In charge of the Linux workstations of the speech group in the Department of EESE, University of Birmingham.
- Worked as a post-graduate teaching assistant for more than ten bachelor/master's modules in the School of Engineering, University of Birmingham, modules include:
  - MSc Introductory Module for Computer/Communications/Power Engineering
  - Fundamentals of Signals and Systems
  - Multimedia Speech, Audio Processing and Music
  - Algorithms and Data Structures
  - Computing for Engineers
  - Advanced Mechanics
  - Engineering Mathematics 1/2

## SCHOLARSHIPS AND AWARDS

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- 2020** 4<sup>th</sup> place in the Shared Task on Automatic Speech Recognition for Non-Native Children's Speech (Interspeech 2020 Special Session).
- 2018** Been awarded the Interspeech 2018 ISCA Travel Grant.
- 2017** Won the 1<sup>st</sup> and 2<sup>nd</sup> places in the 2017 Spoken CALL Shared Task.
- 2016** School of Engineering Scholarship, University of Birmingham, UK.

## PUBLICATIONS

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1. **M. Qian**, P. Jančovič, and M. J. Russell, "The University of Birmingham 2019 Spoken CALL Shared Task Systems: Exploring the importance of word order in text processing.", in *Proc of SLaTE Workshop, Graz, Austria*, 2019, pp. 11–15.
2. **M. Qian**, X. Wei, P. Jančovič, and M. J. Russell, "The University of Birmingham 2018 Spoken CALL Shared Task Systems.", in *Proc. of Interspeech, Hyderabad, India*, 2018, pp. 2374–2378.
3. **M. Qian**, L. Bai, P. Jančovič, and M. J. Russell, "Phone Recognition Using a Non-Linear Manifold with Broad Phone Class Dependent DNNs.", in *Proc. of Interspeech, Hyderabad, India*, 2018, pp. 3753–3757.
4. **M. Qian**, X. Wei, P. Jančovič, and M. J. Russell, "The University of Birmingham 2017 SLaTE CALL Shared Task Systems.", in *Proc of SLaTE Workshop, Stockholm, Sweden*, 2017, pp. 91–96.
5. **M. Qian**, I. McLoughlin, W. Quo, and L. Dai, "Mismatched training data enhancement for automatic recognition of children's speech using DNN-HMM", in *2016 10th International Symposium on Chinese Spoken Language Processing (ISCSLP)*, IEEE, 2016, pp. 1–5.
6. C. Baur, A. Caines, C. Chua, J. Gerlach, **M. Qian**, M. Rayner, M. Russell, H. Strik, and X. Wei, "Overview of the 2019 Spoken CALL Shared Task", in *Proc. of the Eighth SLaTE Workshop, Graz, Austria*, 2019, pp. 1–5.
7. C. Baur, A. Caines, C. Chua, J. Gerlach, **M. Qian**, M. Rayner, M. Russel, H. Strik, and X. Wei, "Overview of the 2018 spoken CALL shared task", in *Proc. of Interspeech, Hyderabad, India*, 2018, pp. 2354–2358.
8. D. Jülg, M. Kunstek, C. P. Freimoser, K. Berkling, and **M. Qian**, "The CSU-K Rule-Based System for the 2nd Edition Spoken CALL Shared Task", in *Proc. of Interspeech, Hyderabad, India*, 2018, pp. 2359–2363.

## OTHER ACTIVITIES

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- 2018–Current** 1430 days streak on Duolingo (keeps increasing).
- 2014–2017** Accomplished half marathon for three times.