

# ZEYU ZHAO

[Google Scholar](#) [LinkedIn](#) [Personal Website](#)

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## EDUCATION

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### University of Edinburgh

*September 2020 - Present*

PhD Student, supervised by [Prof Peter Bell](#)

End-to-End Speech Recognition

[Centre for Speech Technology Research](#)

School of Informatics

### Tsinghua University

*September 2017 - August 2020*

Master of Science, supervised by [Dr Wei-Qiang Zhang](#)

End-to-End Keyword Search and Speech Recognition for Low Resource Languages

[Speech and Audio Technology Lab](#)

Department of Electronic Engineering

CGPA: 3.6/4.0

### Lady Margaret Hall, University of Oxford

*August 2019*

Summer Programme, Science Research at the Cutting Edge

Successfully completed with distinction

### Beijing Institute of Technology

*September 2013 - June 2017*

Bachelor of Science

Department of Electronic Engineering

CGPA: 90/100

## RESEARCH INTERESTS

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Automatic Speech Recognition (ASR), End-to-End ASR

## PUBLICATIONS

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### Conferences

**Z. Zhao** and P. Bell, “Advancing CTC Models For Better Speech Alignment: A Topological Approach” IEEE Spoken Language Technology (SLT) Workshop 2024 (accepted)

**Z. Zhao**, P. Chen, and P. Bell, “Regarding Topology and Adaptability in Differentiable WFST-based E2E ASR” XAI-SA Workshop ICASSP 2024 (accepted)

**Z. Zhao**, P. Bell, and O. Klejch, “Exploring Dominant Paths in CTC-Like ASR Models: Unraveling The Effectiveness of Viterbi Decoding” XAI-SA Workshop ICASSP 2024 (accepted)

**Z. Zhao** and P. Bell, “Regarding Topology and Variant Frame Rates for Differentiable WFST-based End-to-End ASR” INTERSPEECH 2023 (pp. 4903-4907)

Y. Li<sup>†</sup>, **Z. Zhao**<sup>†</sup>, O. Klejch, P. Bell, and C. Lai, “A Word-Level Investigation of the Mutual Impact of Speech and Emotion Recognition” INTERSPEECH 2023 (pp. 1449-1453)

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<sup>†</sup>Equal contribution.

**Z. Zhao** and P. Bell, “Investigating Sequence-Level Normalisation For CTC-Like End-to-End ASR” IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2022 (pp. 7792-7796)

**Z. Zhao** and W. Q. Zhang, “End-to-End Keyword Search Based on Attention and Energy Scorer for Low Resource Languages” INTERSPEECH 2020 (pp. 2587-2591)

**Z. Zhao**, W. Q. Zhang, J. Liu, F. Zhang, X. Li, and L. Yu, “Jujubecake: An Extension of LSTM Considering Correlation among Input Blocks” 2020 15th IEEE International Conference on Signal Processing (ICSP) (Vol. 1, pp. 316-320)

## Journals

**Z. Zhao** and W. Q. Zhang, “End-to-End Keyword Search System Based on Attention Mechanism and Energy Scorer for Low Resource Languages” Neural Networks, 2021, 139, 326-334

**Z. Zhao**, W. Q. Zhang, and J. Liu, “End-to-End Keyword Search System Based on Attention Mechanism and Multitask Learning,” (in Chinese) Journal of Signal Processing, 2020, 36(6):839-851. DOI: 10.16798/j.issn. 10030530. Jun 2020.

## EXPERIENCE

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**Research Associate (part-time)** *March 2024 - August 2024*  
Fine-tuning and evaluating Large Language Models (LLMs) for finance application  
Main code writer

**SpeechBrain k2 integration** *August 2023 - February 2024*  
Make the new version of SpeechBrain support k2 training and decoding  
Main contributor  
For [more information](#)

**Automatic Speech Recognition (ASR) 2023-24** *January 2024 - June 2024*  
By Prof Peter Bell  
Teaching Assistant and Demonstrator  
University of Edinburgh

**Automatic Speech Recognition (ASR) 2022-23** *January 2023 - June 2023*  
By Prof Peter Bell  
Teaching Assistant and Demonstrator  
University of Edinburgh

**Machine Learning 2022-23** *September 2022 - January 2023*  
By Dr Hao Tang  
Marker  
University of Edinburgh

**Automatic Speech Recognition (ASR) 2021-22** *January 2022 - June 2022*  
By Prof Peter Bell  
Teaching Assistant and Demonstrator  
University of Edinburgh

## AWARDS & SCHOLARSHIPS

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### **Student Research Award**

*2019*

Research Center for Media Big Data Cognitive Computing, Department of Electronic Engineering  
Tsinghua University, Beijing, China

### **National Scholarship**

*2014 - 2016*

Beijing Institute of Technology, Beijing, China  
For top students only

### **First Undergraduate Scholarship**

*2013 - 2017*

Beijing Institute of Technology, Beijing, China  
For top students only

### **Third Prize, Beijing Electronic Design Competition**

*2016*

### **Honorable Mentioned, Mathematical Contest in Modelling**

*2015*

### **First Prize in National Physics Competition**

*2014*