

ZEYU ZHAO

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

Informatics Forum, 10 Crichton Street, Edinburgh, EH8 9AB, Scotland

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EDUCATION

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

Automatic Speech Recognition (ASR), Conversational AI, Generative AI

PUBLICATIONS

Conferences

Z. Zhao and P. Bell, *Is the Blank Token Essential? Analysing CTC and Alternative ASR Topologies with Silence Modelling*, INTERSPEECH 2025 (under review)

Z. Zhao and P. Bell, *Regarding the Existence of the Internal Language Model in CTC-Based E2E ASR*, ICASSP 2025 (accepted)

Z. Zhao and P. Bell, *Advancing CTC Models for Better Speech Alignment: A Topological Approach*, SLT 2024

Z. Zhao, P. Chen and P. Bell, *Regarding Topology and Adaptability in Differentiable WFST-Based E2E ASR*, ICASSP 2024 XAI-SA Workshop

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

Z. Zhao and P. Bell, *Regarding Topology and Variant Frame Rates for Differentiable WFST-based End-to-End ASR*, Interspeech 2023

Y. Li[†], **Z. Zhao**[†], O. Klejch, P. Bell, and C. Lai, *A Word-Level Investigation of the Mutual Impact of Speech and Emotion Recognition*, Interspeech 2023

Z. Zhao and P. Bell, *Investigating Sequence-Level Normalisation For CTC-Like End-to-End ASR*, ICASSP 2022

Z. Zhao and W. Q. Zhang, *End-to-End Keyword Search Based on Attention and Energy Scorer for Low Resource Languages*, Interspeech 2020

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 IEEE International Conference on Signal Processing (ICSP)

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

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

EXPERIENCE

Research Officer

September 2024 - Present

Generative and Interactive AI

School of Mathematics and Computer Science, Swansea University

Research Associate (part-time)

March 2024 - August 2024

Fine-tuning and evaluating Large Language Models (LLMs) for finance application

Main contributor and code writer

University of Edinburgh

SpeechBrain k2 integration

August 2023 - December 2024

Make the new version of SpeechBrain support k2 training and decoding

Main contributor

Please refer to [this pull request](#) and [this pull request](#) for more information.

Automatic Speech Recognition (ASR) 2023-24

January 2024 - June 2024

Held by Prof Peter Bell

Teaching Assistant and Demonstrator

University of Edinburgh

Automatic Speech Recognition (ASR) 2022-23

January 2023 - June 2023

Held by Prof Peter Bell

Teaching Assistant and Demonstrator

University of Edinburgh

Machine Learning 2022-23

September 2022 - January 2023

Held by Dr Hao Tang

[†]Equal contribution.

Marker
University of Edinburgh

Automatic Speech Recognition (ASR) 2021-22

January 2022 - June 2022

Held by Prof Peter Bell
Teaching Assistant and Demonstrator
University of Edinburgh

AWARDS & SCHOLARSHIPS

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*