

ZEYU ZHAO

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

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

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RESEARCH INTERESTS

Automatic Speech Recognition (ASR), Large Language Models, Conversational AI, Generative AI

EDUCATION

University of Edinburgh

September 2020 - July 2025

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

EXPERIENCE

Research Officer

September 2024 - Present

Generative and Interactive AI

School of Mathematics and Computer Science, Swansea University

Research Associate

March 2024 - August 2024

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

Main contributor and code writer (part-time)

University of Edinburgh

Teaching Assistant and Demonstrator

January 2022 - June 2024

Automatic Speech Recognition (ASR) by [Prof Peter Bell](#)

University of Edinburgh

Marker

September 2022 - January 2023

Machine Learning by [Dr Hao Tang](#)

University of Edinburgh

OPEN-SOURCE CONTRIBUTION

SpeechBrain k2 integration

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.

Ben Nevis

An End-to-End ASR framework based on PyTorch and [k2](#), a Differentiable Weighted Finite-State Transducer library

Creator

Please see my personal [Github](#) for more information.

SELECTED PUBLICATIONS

For the full list, please see my [Google Scholar](#).

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

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 and W. Q. Zhang, *End-to-End Keyword Search System Based on Attention Mechanism and Energy Scorer for Low Resource Languages*, Neural Networks, 2021

AWARDS & SCHOLARSHIPS

Student Research Award

2019

Research Center for Media Big Data Cognitive Computing, Department of Electronic Engineering

[†]Equal contribution.

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