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 - 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

RESEARCH INTERESTS

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

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

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[†]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*