

Zack HODARI

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I am a researcher with 8 years of experience in generative AI. I am focused on delivering real-world impact through my research. My background is in speech synthesis, I also have experience in NLP, LLMs, and computer vision. I enjoy mentoring others and have some experience with management. I've given many invited talks and love presenting my ideas to both technical and lay audiences.

PROFESSIONAL EXPERIENCE

JULY 2021 (current)	Papercup – Senior Research Engineer, Tech Lead Research Engineer, July 2021 – April 2023 Making the world's videos watchable in any language. Conducting research in speech-to-speech translation. Delivered voice cloning technology, providing a new product offering. This was research I proposed and earned buy-in from company leadership. After deploying an early prototype, I acted as product manager for the rollout to our first customer allowing me to iterate on the model based on customer feedback. Delivered more expressive voices, unlocking conversational content and enabling sales to close strategic customers. I led the efforts end-to-end from research to deployment, as well as implementing scalable tooling and processes to delegate further expansion to others. In total we created dozens of new conversational AI voices available across 5 languages. Line managed PhD intern for 9 months, their research was accepted at a top speech conference (ICASSP)
JULY 2022 (current)	TAS UKRI project – Advisor Contributing to multi-disciplinary research into trust and safety of audio AI. Part of UKRI £30m TAS program.
JAN – MAR 2021 2021	University of Edinburgh – Lecturer Created and delivered lecture series for masters-level course: <i>Machine Learning for Speech and Language Processing</i> .
JAN. – JULY 2020 2020	Amazon – Applied Science Intern Delivered prototype for long-form reading. My individual work surpassed the annual S-team goal for the entire team. My research was submitted for 2 patents and was accepted at a top speech conference (ICASSP).
APR. – AUG. 2018 2018	Google – Software Engineering Intern Researched prosody modelling using self-attention. Improved Google's production prosody synthesis models.
MAY – AUG. 2019 2019	University of Edinburgh – MSc Supervisor Supervised two <i>Speech and Language Processing</i> masters students, both of my students achieved a distinction.
SEPT. – DEC 2017 2019	University of Edinburgh – Teaching Support Course: Probabilistic Modelling and Reasoning – Teaching assistant and Tutor Course: Computer Programming for Speech and Language Processing – Demonstrator and Marker Course: Introductory Applied Machine Learning – Tutor and Marker
JUNE – SEPT. 2015 2015	FootClicks – Research Internship Supported generative modelling research by measuring hardware errors that contribute to model failure modes.

EDUCATION

2017 – 2021	PhD in Data Science – School of Informatics, University of Edinburgh Thesis: Synthesising prosody with insufficient context Supervisor: Professor Simon King Neural networks, generative models, experimental design, top-tier publications, state-of-the-art results.
2016 – 2017	MScR in Data Science – School of Informatics, University of Edinburgh Thesis: A learned emotion space for emotion recognition and emotive speech synthesis Supervisor: Professor Simon King Representation learning, interpretability, emotion recognition, expressive speech synthesis. Result: DISTINCTION – 81%
2013 – 2016	BSc in Computer Science – Durham University Awards: Vice-Chancellor's Scholarship for Academic Excellence. Top in Computer Science program. Result: 1ST CLASS HONOURS – 79%

PUBLICATIONS

- ICASSP 2024 | *Controllable Prosody Generation With Partial Inputs*
Dan Andrei Iliescu, Devang Savita Ram Mohan, Tian Huey Teh, **Zack Hodari**.
- ICASSP 2023 | *Ensemble Prosody Prediction For Expressive Speech Synthesis*
Tian Huey Teh, Vivian Hu, Devang Ram Mohan, **Zack Hodari**, Christopher Wallis, Tomás Gómez Ibarrondo, Alexandra Torresquintero, James Leoni, Mark Gales, Simon King.
- ICASSP 2021 | *CAMP: a Two-Stage Approach to Modelling Prosody in Context*
Zack Hodari, Alexis Moinet, Sri Karlapati, Jaime Lorenzo-Trueba, Thomas Merritt, Arnaud Joly, Ammar Abbas, Penny Karanasou, Thomas Drugman.
- ICASSP 2021 | *Prosodic Representation Learning and Contextual Sampling for Neural Text-to-Speech*
Sri Karlapati, Ammar Abbas, **Zack Hodari**, Alexis Moinet, Arnaud Joly, Penny Karanasou, Thomas Drugman.
- SPEECH PROSODY 2020 | *Perception of prosodic variation for speech synthesis using an unsupervised discrete representation of F0*
Zack Hodari, Catherine Lai, Simon King.
- SSW 2019 | *Using generative modelling to produce varied intonation for speech synthesis*
Zack Hodari, Oliver Watts, Simon King. Speech Synthesis Workshop.
- INTERSPEECH 2019 | *Investigating the Robustness of Sequence-to-Sequence Text-to-Speech Models to Imperfectly-Transcribed Training Data*
Jason Fong, Pilar Oplustil Gallegos, **Zack Hodari**, Simon King.
- INTERSPEECH 2018 | *Learning interpretable control dimensions for speech synthesis by using external data*
Zack Hodari, Oliver Watts, Srikanth Ronanki, Simon King.
- UK SPEECH 2017 | *A learned emotion space for emotion recognition and emotive speech synthesis*
Zack Hodari, Simon King.

INVITED TALKS

- Keynote talk* at Sheffield Speech Synthesis Workshop 2023. **Prosody: The only important problem in TTS.**
- Oral presentation* at UK Speech 2023. **Efficient prosodic control using sparse human input.**
- Keynote talk* at UK Speech 2022. **Evaluating watchability for video localisation.**
- University finalist* in 3 Minute Thesis 2021. **How to speak like a human.**
- Invited talks* at KTH seminar 2021 and SIGML seminar 2021. **Synthesising prosody with insufficient context.**
- Oral presentation* at Speech prosody 2020. **Perception of learned intonation contour classes.**
- Talk* at Amazon Cambridge 2020. **Context aware modelling of prosody.**
- University industry engagement event* 2019. **How to sound like a human.**
- Oral presentation* at UK Speech 2019. **Producing varied intonation.**
- Oral presentation* at Interspeech 2018. **Learning interpretable control for speech synthesis.**
- Talk* at Google London 2018. **Learning representations with self-attention.**