Zack Hodari

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Education

Current | **PhD** in Data Science — School of Informatics, University of Edinburgh
Thesis: Synthesising varied prosody
Supervisor: Professor Simon King
Investigated ill-posed nature of prosody: i.e. a single sentence has many appropriate renditions. Culminated in a state-of-the-art method for speech synthesis: determining appropriateness of prosodic renditions using context.

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 **Result:** Distinction — 81%
Developed an emotion space to address issues with existing descriptions of emotion. Investigated methods to improve interpretability. Performed listening test evaluation using style adaptation for expressive text-to-speech.

2013 – 2016 | **BSc** in Computer Science — Durham University **Result:** 1ST class honours — 79%

Professional Experience

Jan. *2020* – July *2020* | **Amazon** — Applied Science Intern
Researched prosody modelling for long-form reading, and published paper on my state-of-the-art results.

May *2019* – Aug. *2019* | **University of Edinburgh** — MSc Supervisor
Supervised two *Speech and Language Processing* masters students. **Topics:** WaveNet; Prosodic representations. Both of my students achieved a distinction in their thesis.

Apr. *2018* – Aug. *2018* | **Google** — Software Engineering Intern
Researched prosody modelling in sequence-to-sequence models. Improved phoneme/silence duration models.

Sept. *2017* – Dec *2019* | **University of Edinburgh** — Teaching
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 *2015* – Sept. *2015* | **FootClicks** — Research Internship
Ran experiments to profile hardware errors in mobile phone gyroscope, created error model for particle filter.

Publications

ICASSP *(under review)* | **Z. Hodari**, A. Moinet, S. Karlapati, J. Lorenzo-Trueba, T. Merritt, A. Joly, A. Abbas, P. Karanasou, and T. Drugman, *CAMP: a Two-Stage Approach to Modelling Prosody in Context*, ICASSP, Toronto, Canada, 2021.

Speech Prosody | **Z. Hodari**, C. Lai, and S. King, *Perception of prosodic variation for speech synthesis using an unsupervised discrete representation of F0*, Speech Prosody, Tokyo, Japan, 2020.

SSW | **Z. Hodari**, O. Watts, and S. King, *Using generative modelling to produce varied intonation for speech synthesis*, Speech Synthesis Workshop, Vienna, Austria, 2019.

Interspeech | J. Fong, P. O. Gallegos, **Z. Hodari**, S. King, *Investigating the Robustness of Sequence-to-Sequence Text-to-Speech Models to Imperfectly-Transcribed Training Data*, Interspeech, Graz, Austria, 2019.

Interspeech | **Z. Hodari**, O. Watts, S. Ronanki, and S. King, *Learning interpretable control dimensions for speech synthesis by using external data*, Interspeech, Hyderabad, India, 2018.

UK Speech | **Z. Hodari**, and S. King, *A learned emotion space for emotion recognition and emotive speech synthesis*, UK Speech, Cambridge, UK, 2017.

Awards

July *2016* | Top 5 in the School of Engineering and Computing Sciences
Nov. *2015* | Outstanding Achievement Award (performed top in the year)
Oct. *2015* | Vice-Chancellor's Scholarship for Academic Excellence

Skills

Skilled | Python, NumPy, PyTorch, MXNet, TensorFlow, Matplotlib, Git, Bash, LaTeX
Proficient | HTML, JavaScript, Pandas, Java, C, C++, CSS, PHP, SQL, Keras, Theano, Make