Sarenne Wallbridge

PhD in Cognitive Science, speech processing, machine learning. Versatile analyst and strong communicator, passionate about combining and augmenting human nature with information technology.

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EDUCATION

PhD: Informatics, University of Edinburgh, UK

2020 - 2024

EPSRC-funded self-proposed studentship: "Quantifying the perceptual value of lexical and non-lexical channels of spoken dialogue" supervised by Catherine Lai, Peter Bell.

BSc (Hons): Cognitive Science, University of Edinburgh, UK

1st Class
2020 - 2024

Thesis: "Exploring the Relationship Between Word Form & Meaning" supervised by Sharon Goldwater.

Accepted to and completed a full set of MSc courses.

PUBLICATIONS

Can we "cherry-pick"? Investigating multiple renditions from a generative speech synthesis model; ICASSP, 2025, A. Adigwe, **S. Wallbridge**, Z. Tu, C. Lai, S. King

PairwiseTurnGPT: a multi-stream turn prediction model for spoken dialogue; SemDial, 2024 S. Leishman, P. Bell, **S. Wallbridge**.

Incremental alternative sampling as a lens into the temporal and representational resolution of linguistic prediction; preprint 2024, M. Giulianelli, **S. Wallbridge**, R. Fernandez

What do people hear? Listeners' perception of conversational speech; Interspeech, 2024, A. Adigwe, **S. Wallbridge**, S. King

Information value: measuring utterance predictability as distance from plausible alternatives; EMNLP 2023, M. Giulianelli*, **S. Wallbridge***, R. Fernandez
  * for co-authorship

Quantifying the perceptual value of lexical and non-lexical channels in speech; Interspeech 2023, **S. Wallbridge**, P. Bell, C. Lai

Do dialogue representations align with perception? An empirical study; EACL 2023, **S. Wallbridge**, P. Bell, C. Lai

Investigating perception of spoken dialogue acceptability through surprisal*; Interspeech 2022, **S. Wallbridge**, P. Bell, C. Lai
  *Awarded Best Student Paper

It's not what you said, it's how you said it: discriminative perception of speech as a multichannel communication system; Interspeech 2021, **S. Wallbridge**, P. Bell, C. Lai

EXPERIENCE

Postdoctoral Research Associate, University of Edinburgh, UK

Oct 2024 - present

Research associate supervising two projects:

  – NLP in Education: investigating the use of LLMs for creating materials to

SKILLS

Python, Git, Pytorch, UNIX, Scipy, NLTK, Pandas, Spacy, TensorFlow, Sacred, Chainer, AWS.

TEACHING

Spoken language processing MSc tutor

University of Edinburgh

2020

Developed and taught a lecture series ("Neural Networks from 1st Principles") and led weekly office hours, seminars, and individual help for all courses.

MSc & BSc course tutor

University of Edinburgh

2017 - 2020

Accelerated NLP, Processing Formal and Natural Languages, Reasoning and Agents, etc

PERSONAL ACHIEVEMENTS

Creativity. Music is a major part of my life; I'm proud to have sung in Copenhagen's oldest jazz club and put on my own show at the Edinburgh Fringe Festival.

Persistence. I'm a keen mountaineer and have climbed 14 4000m+ peaks in the Alps and walked Scotland's Cape Wrath trail.

MISC.

Research visit at University of Amsterdam (Mar – May 2023)

Invited talks at KTH Stockholm, Sweden; CLS University of Amsterdam, Netherlands; Trinity College Dublin, Ireland.

Organising committee (2024, 2023) and panellist (2022) for *Young Female Researchers in Speech* workshop at Interspeech.

Organiser of weekly *Prosody*

assist deaf students in UK schools.

 – NLP in FinTech: produced technical reports for a commercial partner regarding the adaptation and automatic evaluation of LLMs and RAG systems.

PhD Industrial Collaboration, Novoic, London, UK

Jul 2020 - Sep 2020

Set up an industrial placement prior to starting my PhD: audio-linguistic embeddings for clinical applications.

Novoic leverages the information in human speech as a clinical tool for early detection of neurological and respiratory disease.

 – Built API for clinical acoustic and lexical feature extraction.

 – Initialised collection for a novel dataset (transcription guidelines, etc).

Machine Learning Research Engineer, Klydo, London, UK

Sep 2019 - Jul 2020

The 6th hire at Klydo, an NLP tool to better understand consumers and drive creative innovation solutions.

 – Contributed to full ML pipeline (supervised information extraction, semantic embedding, semi/unsupervised clustering).

 – Involved in product development/commercialisation (including client meetings), ML-UX interaction, and project planning.

Machine Learning Research Engineer, Corti, Copenhagen, Denmark

Feb 2019 - Sept 2019

Corti augments critical conversations in emergency medical services using state-of-the-art ML to enhance dispatchers' decision-making. I contributed to ML, NLP, and ASR research and product as an AGILE team lead and member.

 – Project lead; developed 1st iteration of dialog state tracking feature.

 – Contributed to continuous development of multilingual ASR systems. Owned the French ASR development.

 – Made significant changes to evaluation \& training of time-series models through novel segmentation data augmentation.

Machine Learning Data Engineer, Corti, Copenhagen, Denmark

Oct 2018 - Feb 2019

 – Analysis into multi-lingual ASR data augmentation, training patterns, and effects of spontaneous speech including source separation.

 – Refactored components of ML research and production pipelines.

Machine Learning Intern, Rasa, Berlin, Germany

Jun 2017 - Sep 2017

Rasa produces a leading open-source conversational AI framework.

 – Released NLU entity extraction methods (regexp) on GitHub.

 – ML research into anomaly detection for out-of-scope messages.

 – Participated in client kick-off meetings, sat in on sales calls, and represented Rasa at events like the Berlin Chatbot Summit.

research meetings.

Organiser for *UKSpeech* 2022.

Mentor for *Edinburgh University Women in STEM.*

PGR representative for *Athena Swan* Assessment team promoting gender equality and career development for women.

VOLUNTEERING

Performer

StreetWork UK, Edinburgh Children's Hospital, Social Bite Scotland.

2016 - present

Performed at and co-organised a Christmas charity event for the past 6 years. In 2024, we raised >£5000 for Social Bite!

Performed several charity gigs with my own band.

Kiva Lender

2012 - present

Regular contributor to Kiva, an international non-profit that connects lenders to low-income entrepreneurs and students.

REFERENCES

Available upon request.