

SARENNE WALLBRIDGE

Enthusiastic, creative PhD research student. Passionate about combining and augmenting human nature with information technology

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Edinburgh, UK & Geneva, Switzerland

EDUCATION

PhD; Institute of Language, Cognition, and Computation;
School of Informatics

University of Edinburgh

September 2020 – 2024 (exp.) Edinburgh, UK

EPSRC-funded studentship: “Leveraging Perceptual Saliency for Compression: Speech as a Multi-Channel Communication System”

- Research visit at University of Amsterdam (4/2023 - 5/2023).
- Invited talks at KTH in Stockholm, University of Amsterdam CLS, Trinity College in Dublin.
- Organiser for UKSpeech 2022.
- Organising committee (2024, 2023) and panelist (2022) for Young Female Researchers in Speech, a satellite workshop at Interspeech.
- Mentor for Edinburgh University Women in STEM.
- PGR representative for Athena Swan Assessment team to promote gender equality, and career development for women.

BSc (Hons) Cognitive Science; 1st Class
School of Informatics

University of Edinburgh

September 2014 – July 2018 Edinburgh, UK

Specialized in Natural Language Processing, Machine Learning, and AI.

- Thesis “Exploring the Relationship Between Word Form & Meaning” supervised by S. Goldwater received a 1st grade.
- Accepted to and completed a full set of MSc courses.

PUBLICATIONS (SELECT.)

(See Google Scholar for full publication list.)

Information value: measuring utterance predictability as distance from plausible alternatives

Mario Giulianelli*, Sarenne Wallbridge*, Raquel Fernandez Edinburgh, UK EMNLP 2023

Quantifying the perceptual value of lexical and non-lexical channels in speech

Sarenne Wallbridge, Peter Bell, Catherine Lai Interspeech 2023

Do dialogue representations align with perception? An empirical study

Sarenne Wallbridge, Peter Bell, Catherine Lai EACL 2023

Investigating perception of spoken dialogue acceptability through surprisal

Sarenne Wallbridge, Peter Bell, Catherine Lai Interspeech 2022
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

Sarenne Wallbridge, Peter Bell, Catherine Lai Interspeech 2021

FORMAL LANGUAGES & LIBRARIES

Python Git PyTorch UNIX
SciPy NLTK SpaCy TensorFlow
Sacred Chainer MATLAB AWS

NATURAL LANGUAGES

English
French



TEACHING

MSc programme Tutor

Spoken Language Processing MSc

2020 – present University of Edinburgh

I developed and taught a series of lectures *Neural Networks from First Principles*. I also lead weekly office hours, seminars, and individual help for all programme courses.

MSc and BSc Tutor & Demonstrator

- Accelerated Natural Language Processing
- Processing Formal and Natural Languages
- Reasoning and Agents

2017 – 2020 University of Edinburgh

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 love the wilderness and am happiest outdoors skiing, climbing, or hiking. I've climbed 14 >4000m peaks in the Alps (so far) and walked Scotland's Cape Wrath trail.

Soft Skills

Articulate Organized Creative
Adaptable Team-player Persuasive

EXPERIENCE

PhD Industrial Collaboration

Novoic

📅 July 2020 – September 2020 📍 London, UK

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.

- Shipped new features in open-source acoustic feature extraction.
- Built API for clinical acoustic and lexical feature research.
- Designed and initialised collection of novel dataset (transcription guidelines, etc).

Machine Learning Research Engineer

Klydo

📅 September 2019 - July 2020 📍 London, UK

Klydo uses NLP to better understand consumers and drive creative innovation solutions.

- 6th hire!
- 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 Engineer

Corti

📅 February - September 2019 📍 Copenhagen, Denmark

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 framework as both AGILE project owner and team member.

- Project lead; developed 1st iteration of dialog state tracking feature.
- Contributed to continuous development of multilingual ASR systems. Owned the French ASR development.
- Team member; launched a AI-EMS Triage product. Implemented a host of real-time ML models and contributed to UX design.
- Made significant changes to evaluation & training of time-series models through novel segmentation data augmentation.

Machine Learning Data Engineer

Corti

📅 October 2018 - February 2019 📍 Copenhagen, Denmark

- 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.

Edinburgh Fringe Festival: Music Director & Performer

The Blueswater

📅 August 2017 & 2018 & 2019 📍 Edinburgh, UK

I wrote, arranged, and co-fronted 'Good Morning, Billie!' (keyboard, vocals) and performed in headline 'Blues!' (vocals, guitar, narration).

- >75% of 'Good Morning, Billie!' performances sold out (a huge achievement for a new Fringe show running daily)!
- Performed in >50 gigs throughout the month.
- Personal mention in a review of 'Blues!' (Blues In Britain magazine).

Machine Learning Intern

Rasa

📅 June – Sept 2017 📍 Berlin, Germany

Rasa produces leading open-source conversational AI framework. After 2 months at Rasa's Berlin HQ, contract was extended remotely.

- NLU entity extraction methods (regex-based), released on GitHub.
- ML research into anomaly detection for out-of-scope messages.
- Set up a POC project for a new client (AGILE planning).
- Participated in client kick-off meetings, sat in on sales calls, and represented Rasa at events like the Berlin Chatbot Summit.

Undergraduate Research Assistant

University of Edinburgh

📅 May – July 2016 📍 Edinburgh, UK

Edinburgh University is the UK's oldest and largest Informatics research center.

- Assisted ESSENCE Taboo Project - an AI agent to play 'Taboo' against humans (player A describes a city without using 'taboo' words, player B guesses).
- Implemented a component to validate training data generation in real-time from human games.

VOLUNTEERING

Performer

StreetWork UK, Edinburgh Children's Hospital

📅 2016 – ongoing 📍 Edinburgh

- Performed at Blue Christmas every year since it's inception (6 years), a charity event for the Edinburgh Children's Hospital. Last year, we raised >£2500.
- Performed 3 charity gigs with my own band; proceeds went to Streetwork to help break the homelessness cycle.

Lender

Kiva

📅 2012 – ongoing

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

- Have made >40 loans - over \$1000