

EDUCATION

University of Sheffield

October 2018 – July 2023

PhD, Computer Science

Sheffield, UK

- **Thesis:** Simulating realistic multiparty speech data for the development of distant microphone ASR systems
- **Research interests:** machine learning, speech recognition, speaker separation, beamforming

University of Sheffield

September 2014 – July 2018

MCOMP (equivalent to MSc + BSc), Computer Science

Sheffield, UK

- Graduated with highest overall grade and awarded the Mappin Medal.
- Highly commended in undergraduate awards 2017

WORK EXPERIENCE

University of Sheffield, Speech and Hearing Group

October 2018 – July 2023

PhD Candidate

Sheffield, UK

- Trained large generative and discriminative models on 100s of hours of speech data across multiple GPUS.
- Developed people tracking annotations tools using web technologies to annotate over 200 videos.
- Developed innovative algorithms to estimate speaker locations by combining multiple camera feeds.
- Developed techniques for modelling speaker turn-taking to generate realistic synthetic data.
- Contributed to the development of a web platform to remotely conduct listening experiments during COVID.
- Promptly marked student assignments and exams in machine learning and web technologies modules.
- Presented research in reading clubs and international conferences.

Skills: NumPy, Scikit-learn, OpenCV, Python, PyTorch, Kaldi, beamforming, ASR, presenting, teaching

epiGenesys

September 2017 – July 2018

Software Engineer

Sheffield, UK

- Part of a team of four developing timetabling software using Ruby on Rails for a music teacher.
- Used test driven development to create clean and robust code.
- Regular sprints with story planning and retrospectives to produce software in a transparent timely manner.

Skills: Ruby, JavaScript, HTML, CSS, Scrum, SQL, AWS

University of Sheffield, Security Group

July 2017 – September 2017

Research Intern

Sheffield, UK

- Implemented software to instrument browser extension code, enabling the tracing of code execution paths.
- Deployed code on 60,000 extensions, utilising the University's High-Performance Computing facilities.

Skills: Python, JavaScript, HTML, CSS, Docker

VisualWind

July 2016 – September 2016

Software Engineer Intern

Sheffield, UK

- Developed “SCADA” software, providing real-time visualisation of energy outputs from wind turbines.
- Managed and processed datasets containing millions of time-series samples from wind turbines.
- Created a prototype for monitoring water pump usage in The Gambia, which led to securing more funding.

Skills: Python, JavaScript, React, Linux, SQL

PUBLICATIONS

Deadman Jack, Barker Jon. Modelling Turn-taking in Multispeaker Parties for Realistic Data Simulation. *INTERSPEECH*. 2022

Deadman Jack, Barker Jon. Improved simulation of realistically-spatialised simultaneous speech using multi-camera analysis in the CHiME-5 dataset. *ICASSP*. 2022

Tu Zehai, Deadman Jack, Ma Ning, Barker Jon. Auditory-based data augmentation for end-to-end automatic speech recognition. *ICASSP*. 2022

Deadman Jack, Barker Jon. Simulating Realistically-Spatialised Simultaneous Speech Using Video-Driven Speaker Detection and the CHiME-5 Dataset. *INTERSPEECH*. 2020