

EXPERIENCE

Research Scientist Intern (Audio Intelligence)

June – August 2024

Spotify

London, UK

- Developed end-to-end deep learning model for identifying copyrighted samples in catalogue audio recordings, **driving downstream product applications** in music content categorisation & plagiarism detection
- Results **outperformed competing system (“Shazam”) by 9x**, improved upon internal model by **13%**
- Managed pipelines for generating artificial training data at **petabyte-scale** using Google Cloud & Apache Beam
- Deployed training runs on distributed GPU clusters using Ray & Kubernetes
- **Presented results** to senior company stakeholders and in a scientific paper [accessible at [arXiv:2502.06364](https://arxiv.org/abs/2502.06364)]

Music Computing Lecturer + Supervisor

2021 – 2024

University of Cambridge

Cambridge, UK

- Delivered **100+** undergraduate supervisions and lectures on modelling and visualisation of audio data
- **Managed** four undergraduate students on music-related data science and machine learning projects

Data Science Instructor

2023

Sutton Trust

Cambridge, UK

- Delivered workshops on music + data science for secondary-age students from underprivileged backgrounds
- Designed interactive coding and statistics exercises on Google Colab, hosted on GitHub Pages

Teaching Assistant

2020 – 2021

Kingswood School

Bath, UK

- Planned & taught music technology lessons, both in-classroom and virtually during COVID
- Managed recording studio and music technology suite, produced promotional audio-visual material for the school

Professional Musician

2016 – 2020

Freelance

UK

- Worked with internationally recognised acts including *Clean Bandit*, *Everything Everything*, *Dinosaur*

EDUCATION

University of Cambridge

2021 – 2025

Ph.D, Music Computing

Cambridge, UK

- **Advanced state-of-the-art** in music computing tasks including automatic performer identification
- Three **peer-reviewed computer science** publications in major (top-20) scientific journals
- Fully-funded with £75k competitive research grant from Cambridge Trust

University of Oxford

2016 – 2020

BA + MSt., Music Psychology

Oxford, UK

- Graduated with **highest mark in year**, 85% average
- Fully-funded masters study with £25k research grant from Linacre College, Oxford

SKILLS

Stats: multi-level modelling, NHST workflows, time-series analysis, experiment design, optimisation

Inference: simulation, AB testing, hypothesis testing, bootstrapping, causal inference, dimensionality reduction,

Machine Learning: explainability, model selection, artificial datasets, language modelling, neural networks, big data

Languages: Python, JavaScript, HTML/CSS, R, SQL

Tools: Git, Unix, \LaTeX , Google Cloud Platform, Apache Beam, Docker, Ray

Libraries: pandas, matplotlib, plotly, seaborn, scikit-learn, pytorch, statsmodels, numpy, librosa, ggplot2, captum

Domain Knowledge: music content categorisation + retrieval, audio signal processing, explainable AI, applied stats

REFERENCES AVAILABLE ON REQUEST
