HUW WILLIAM CHESTON

Email | Webpage | GitHub | Google Scholar

EDUCATION

Ph.D., Music Data Science, University of Cambridge *expected* Summer 2025
- *Topic:* interpretable machine learning models for identifying music artists.
- Combined audio signal processing, time series analysis, information retrieval, and supervised classification algorithms to go from raw data to final model predictions end-to-end.
- Managed project databases spanning billions of records, several now open sourced.
- Deployed models online with public API to enable users to process their own recordings.
- Automated building and hosting project documentation with GitHub CI/CD.
- Fully-funded with £75k award Vice-Chancellor's award from Cambridge Trust.
- Developed open-source data collection software, funded by Cambridge Digital Humanities.
- Managed undergraduate and graduate research assistants.
- Three peer-reviewed publications in major (top-20) science and computing journals.

BA. & MSt., Music Psychology, University of Oxford (*First Class*) 2016—2020
- Average of 76% (BA) & 85% (MSt), *graduated with highest mark in year for both courses.*
- MSt. study fully-funded with £25k award & scholarship from Linacre College, Oxford.

EMPLOYMENT

Research Scientist, PhD Internship @ Spotify [Audio Intelligence lab] Summer 2024
- Developed end-to-end machine learning model for identifying samples (*e.g.,* drum breaks) in audio recordings, facilitating downstream plagiarism detection & recommendation.
- Managed pipelines for generating artificial training data at petabyte-scale in Beam & GCS.
- Deployed PyTorch training runs on distributed GPU clusters using Ray & Kubernetes
- Model outperformed baseline (Shazam) algorithm by 9x, setting a new state-of-the-art.
- Presented results to major company stakeholders & senior research managers.
- Results presented in interactive web application and in a scientific publication.

Module Leader, Sutton Trust, Cambridge Summer 2023
- Delivered workshops in music computing for students in final years of secondary education.
- Interactive module materials hosted on GitHub Pages and Google Colab.

Instructor & Lecturer, University of Cambridge Winter 2021 — Summer 2024
- Delivered 100+ supervisions for sciences & humanities undergraduates, covering (i): statistical programming in Python and R, (ii) visualising & simulating data, (iii) writing research proposals.
- Mentored undergraduate research projects in data science and machine learning topics.
- Delivered yearly undergraduate lectures on computational modelling of audio data
- Interactive teaching materials hosted online using Jupyter Book

Graduate Teaching Assistant, Kingswood School, Bath September 2020 — June 2021
- Planned & taught music technology lessons, in-classroom and virtually during COVID.
- Managed recording studio and produced promotional audio-visual material for the school.

Musician & Sound Engineer, Freelance [Showreel] September 2016 —

TECHNICAL SKILLS

- **Languages**: Python, R, JavaScript, HTML/CSS, SQL
- **Developer Tools**: git, LaTeX, Docker, Google Cloud Platform, Apache Beam
- **Libraries**: pandas, NumPy, PyTorch, Scikit-Learn, Matplotlib, SciPy, Statsmodels, OpenCV, Ray, NLTK

REFERENCES AVAILABLE ON REQUEST