

HUW WILLIAM CHESTON

[Email](#) | [Webpage](#) | [GitHub](#) | [Google Scholar](#) | [@HuwCheston](#)

EDUCATION

- Ph.D., Music Data Science**, University of Cambridge *expected* October, 2024
Thesis: New Methods in Computational Modeling of Musical Improvisation
Applied techniques from machine learning and data science to analyzing audio recordings
- MSt., Music Psychology**, University of Oxford (*Distinction*) October, 2020
Final average of 85%, *graduated with the highest mark in the year*
- BA., Music**, University of Oxford (*First Class*) June, 2019
Final average of 76%, *graduated with the highest mark in the year*

EXPERIENCE

- Research Scientist Intern**, Spotify June 2024 –
Worked in close collaboration with members of the Audio Intelligence and Machine Learning teams to develop new approaches to audio and music classification.
- Music & Science Module Leader**, Cambridge Summer School, Sutton Trust August 2023
Designed & delivered workshop on AI-assisted audio analysis for students (ages 16–17)
- Supervisor & Guest Lecturer**, University of Cambridge January 2022 – May 2024
- Delivered over 100 small-group supervisions for Undergraduate students (natural sciences & humanities courses) on: (i) analysing audio recordings, (ii) introduction to programming in Python and R, (iii) visualising and simulating data in Python and R.
 - Delivered yearly lecture on analysing audio recordings for Undergraduate *Music & Science* course, involving introduction and demonstration of Music Information Retrieval concepts.
 - Supervised data-driven and analytical Undergraduate dissertation projects.
 - Used Jupyter Book to build [interactive web app](#) for hosting teaching materials
- Graduate Music Assistant**, Kingswood School, Bath, UK September 2020 – June 2021
Duties involved: (i) planning & teaching classes, including virtually during the pandemic; (ii) managing school’s recording studio; (iii) delivering extra-curricular music performance and audio production classes; (iv) producing promotional audio-visual material for the school.
- Professional Musician & Sound Technician** [\[Showreel link\]](#) September 2016 –

SELECTED PUBLICATIONS

- Cheston, H.**, Cross, I., & Harrison, P. M. C. (2024, in press). Trade-offs in Coordination Strategies for Duet Jazz Performances Subject to Network Delay and Jitter. *Music Perception*.
- Built software platform with OpenCV to record multiple audio-video streams in real-time
 - Used time series analysis to model and forecast data from multiple sources
 - Automated project documentation building and hosting with Sphinx and GitHub Pages

Cheston, H., Schlichting, J. S., Cross, I., & Harrison, P. M. C. (2024). Rhythmic Qualities of Jazz Improvisation Predict Performer Identity and Style in Source-Separated Audio Recordings. *PsyArXiv*. [DOI: [10.31234/osf.io/txy2f](https://doi.org/10.31234/osf.io/txy2f)]

- Built classification model for identifying performers featured on commercial audio recordings
- Performed hierarchical clustering to classify performers into genre based on model output
- Created [interactive web application](#) using jQuery and Plotly to visualise the model predictions
- Hosted model online to enable users to process their own recordings

Cheston, H., Schlichting, J. S., Cross, I., & Harrison, P. M. C. (2024). Cambridge Jazz Trio Database: Automated Timing Annotation of Jazz Piano Trio Recordings Processed Using Audio Source Separation. *PsyArXiv*. [DOI: [10.31234/osf.io/jyqp3](https://doi.org/10.31234/osf.io/jyqp3)].

- Developed an audio signal processing pipeline for extracting data from audio recordings
- Optimized pipeline performance using nonlinear optimization algorithms
- Developed [interactive web application](#) for exploring database using jQuery for UI

SELECTED AWARDS AND PRIZES

Project Incubation Award (£ 2000), Cambridge Digital Humanities May, 2022
Awarded for development and testing of *Audio-Visual Manipulator* software [[Project page](#)]

Vice-Chancellor's Award (£ 75,000), Cambridge Trust September, 2021
Full scholarship (fees & stipend) for Ph.D study

Music Prize (£ 100), University of Oxford October, 2020
Awarded for highest average mark in 2020 MSt. cohort

Louis Curran Scholarship (£ 25,000), Linacre College, University of Oxford August, 2019
Full scholarship (fees & stipend) for MSt. study

Gibbs Prize (£ 500), University of Oxford June, 2019
Awarded for highest average mark in 2019 BA. cohort

Academic Scholarship (£ 300 x2), Christ Church, University of Oxford 2017; 2018

TECHNICAL SKILLS

- **Languages:** Python 🐍, R, JavaScript, HTML/CSS
- **Developer Tools:** git, L^AT_EX, Docker, Google Cloud Platform, Excel, PyCharm, Jupyter
- **Libraries:** pandas, NumPy, Matplotlib, Scikit-learn, SciPy, Statsmodels, OpenCV, pytest

REFERENCES AVAILABLE ON REQUEST