HUW WILLIAM CHESTON

✉Email | 🌐Webpage | ⌘GitHub | 📖Google Scholar

EDUCATION

Ph.D., Music Information Retrieval   *expected* Summer, 2025
Centre for Music & Science, University of Cambridge
      Thesis: New Methods in Computational Modeling and of Improvised Music
      Supervisors: Peter Harrison & Ian Cross
      Generated interpretable ML models for identifying musicians from audio recordings.

MSt., Music Psychology, *Distinction*, 86% average (highest mark in year)   October, 2020
Linacre College, University of Oxford

BA., Music, *First Class*, 76% average (highest mark in year)   June, 2019
Christ Church, University of Oxford

EMPLOYMENT

RESEARCH

Research Scientist, PhD Internship @ Spotify [Audio Intelligence lab]   Summer 2024
– Developed end-to-end ML model for identifying samples (*e.g.,* drum breaks) in audio recordings, facilitating downstream plagiarism detection & music recommendation services.
– Managed pipelines for generating artificial training data at petabyte-scale in Beam & GCS.
– Deployed PyTorch training runs on distributed GPU clusters using Ray & Kubernetes
– Final model outperformed baseline Shazam-style 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.

TEACHING

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

Supervisor & 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 lockdowns.
– Managed recording studio and produced promotional audio-visual material for the school.

OTHER

Musician & Sound Engineer, Freelance   September 2016 —
Performance (guitar, bass guitar), sound mixing, mastering work across the UK for clients including
Blenheim Palace, TRUCK Festival, ATMOSPHERE Opera Festival, Oxford Playhouse. [Showreel]

PUBLICATIONS

PEER-REVIEWED ARTICLES

Cheston, H., Cross, I., & Harrison, P. M. C. (2024). Trade-offs in Coordination Strategies for
Duet Jazz Performances Subject to Network Delay and Jitter. *Music Perception*, *42*(1), 48–72.
https://doi.org/10.1525/mp.2024.42.1.48

Cheston, H., Schlichting, J. L., Cross, I., & Harrison, P. M. C. (2024). Jazz Trio Database:
Automated Annotation of Jazz Piano Trio Recordings Processed Using Audio Source Sep-
aration. *Transactions of the International Society for Music Information Retrieval*, *7*(1).
https://doi.org/10.5334/tismir.186

Cheston, H., Schlichting, J. L., Cross, I., & Harrison, P. M. C. (2024, Accepted Pending Minor
Revisions). Rhythmic Qualities of Jazz Improvisation Predict Performer Identity and Style in
Source-Separated Audio Recordings. *Royal Society Open Science*

PREPRINTS

Cheston, H., Van Balen, J. & Durand, S. (2024). Automatic Identification of Samples in Hip-Hop
Music via Deep Metric Learning and an Artificial Dataset. *arXiv*.

CONFERENCE PROCEEDINGS

Cheston, H., Cross, I., & Harrison, P. (2023). An Automated Pipeline for Characterizing Timing
in Jazz Trios. Paper presented at the DMRN+18: Digital Music Research Network Workshop,
Queen Mary University of London, UK. [Proceedings]

Cheston, H., Cross, I., & Harrison, P. (2023). Modelling Coordination Strategies in Impro-
vised Musical Performances by Skilled Jazz Groups. Paper presented at the 16th International
Conference of Students of Systematic Musicology (SysMus23), Sheffield University, UK. [Pro-
ceedings]

Cheston, H., Cross, I., & Harrison, P. (2023). Coordination Strategies in Networked Jazz Per-
formances. Paper presented at the 17th International Conference on Music Perception and
Cognition (ICMPC), Nihon University, Tokyo, Japan. [Proceedings]

Cheston, H., Cross, I., & Harrison, P. (2022). The Effects of Variable Latency Timings and Jitter
on Networked Musical Performances. Poster presented at the 15th International Conference of
Students of Systematic Musicology (SysMus22), University of Ghent, Belgium. [Proceedings]

Cheston, H., Cross, I., & Harrison, P. (2022). Measuring the Effects of Variable Latency Timings on Networked Jazz Performances. Poster presented at the SEMPRE 50th Anniversary Conference, Senate House, University of London, UK. [Proceedings]

Cheston, H. (2022). "Turning the Beat Around": Time, Temporality, and Participation in the Jazz Solo Break. Paper presented at the 13th Conference on Interdisciplinary Musicology: 'Participation', University of Edinburgh, UK. [Proceedings]

OTHER PUBLICATIONS

Cheston, H. (2022) Conference Review: Interdisciplinary Musicology 2022: 'Participation'. Royal Musical Association. [Conference review]

TECHNICAL SKILLS

– **Python** : NumPy, Pandas, Matplotlib, Seaborn, PyTorch, Scikit-learn, SciPy, Statsmodels, OpenCV, Ray
– **JavaScript**: JQuery, DataTable, Plotly
– **R**: ggplot2, lme4, tidyverse
– **Misc.**: git, LaTeX, GCS, Docker, Stata, HTML, Apache Beam

AWARDS AND PRIZES

Travel Award (£200), ICMPC   August, 2023
    Travel Grant to present a paper at *ICMPC17*, Tokyo, Japan

Small Research Grant (£500), Royal Musical Association   August, 2023
    Travel Grant to present a paper at *ICMPC17*

Travel Grant (£1500), Music & Letters Trust   August, 2023
    Travel Grant to present a paper at *ICMPC17*

Conference Paper Presentation Award (£500), Cambridge Digital Humanities August, 2022
    Travel Grant to present a paper at *CIM*, Edinburgh, UK

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

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

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

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

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

Clifford Smith Prize (£ *130*), Christ Church, University of Oxford   June, 2019
    Awarded on basis of continued academic excellence

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

Collections Prize (£ *50* x2), University of Oxford   September, 2018; September, 2017
    Awarded for performance in formative examinations

REFERENCES
Available on request