

# CHRISTOS PLACHOURAS

Machine learning researcher, focused on audio and music informatics

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## EDUCATION

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**Queen Mary University of London**, Centre for Digital Music (C4DM) **London, UK**  
PhD in Artificial Intelligence and Music – Full-ride scholarship **09/2023 - Present**  
Thesis: Self-supervised music audio representation learning – Advisors: Emmanouil Benetos, Johan Pauwels

**Universitat Pompeu Fabra**, Music Technology Group (MTG) **Barcelona, Spain**  
Master's in Sound and Music Computing (M.Sc.) – GPA: 9.37/10.00 **09/2021 - 08/2023**  
Thesis: mir\_ref: A music audio representation evaluation framework – Advisors: Dmitry Bogdanov, Pablo Alonso

**New York University** **Global Program**  
Bachelor's in Computer Science (B.Sc.), Music (double major), and **08/2017 - 05/2021**  
Sound and Music Computing (minor) – Full-ride scholarship – GPA: 3.61/4.00  
Thesis: Audio-based hierarchical music structure analysis – Advisor: Carlos Guedes

## EXPERIENCE

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**Utopia Music** **Berlin, Germany**  
Data Scientist (R&D) **10/2022 - 07/2023**

- Led the formation of an R&D team for massive-scale broadcast monitoring
- Developed efficient deep learning models for granular, large-scale music and sample fingerprinting
- Built tools for generating synthetic broadcasts and evaluating audio fingerprinting systems

**Audiostack** **Barcelona, Spain**  
R&D Engineer **01/2022 - 07/2022**

- Developed a system for remixing music recordings to any duration by utilizing their hierarchical structure
- Built an automatic mixing system and plugins for real-time programmatic sound design
- Devised a Speech Synthesis Markup Language (SSML) unification system for cross-provider speech synthesis

**Music and Sound Cultures Research Lab, NYU Abu Dhabi** **Abu Dhabi, UAE**  
Research Assistant – Advisors: Carlos Guedes, Kaustuv Kanti Ganguli **05/2018 - 07/2021**

- Created visualizations, content-based indexing, searching, and thumbnailing for large music collections
- Worked on music transcription from audio for mode and tuning identification

**Center for Data Science, NYU** **New York, USA**  
Research Student – Advisor: Brian McFee **09/2019 - 05/2020**

- Built methods for hierarchically decomposing music structure from audio
- Developed structure similarity metrics for cover song identification and sound event detection

## SKILLS

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### Data Science

- **Advanced:** Python (incl. PyTorch, TensorFlow), C/C++ (incl. JUCE), MATLAB (incl. Simulink)
- **Intermediate:** AWS, GCP, Linux System Admin, JavaScript, HTML, CSS, SQL, x86 Assembly, Stata

### Music and Media

- **Programming:** Max, SuperCollider, Pure Data, Logic Pro, Ableton Live (incl. Max for Live), Pro Tools, p5.js, Processing, D3.js, Lilypond, Adobe Premiere Pro/After Effects/Illustrator/Photoshop
- **Performance:** Experienced concert pianist and composer (contemporary western classical and electronics)

### Languages

- English (fluent), Greek (native), French (conversational)

## PUBLICATIONS

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- **Towards a Unified Representation Evaluation Framework Beyond Downstream Tasks**  
C. Plachouras, J. Guinot, G. Fazekas, E. Quinton, E. Benetos, J. Pauwels – IJCNN 2025 [[Link](#)]
- **Learning Music Audio Representations With Limited Data**  
C. Plachouras, E. Benetos, J. Pauwels – ICASSP 2025 [[Link](#)]
- **Foundation Models for Music: A Review**  
Y. Ma et al – [Under review] arXiv [[Link](#)]
- **mir\_ref: A Representation Evaluation Framework for Music Information Retrieval Tasks**  
C. Plachouras, P. Alonso, D. Bogdanov – ML for Audio Workshop, NeurIPS 2023 [[Link](#)]
- **Music Rearrangement Using Hierarchical Segmentation**  
C. Plachouras, M. Miron – ICASSP 2023 [[Link](#)]
- **Utilizing Hierarchical Structure for Audio-Based Music Similarity**  
C. Plachouras – LBD, ISMIR 2021 [[Link](#)]
- **Mapping Timbre Space in Regional Music Collections using Harmonic-Percussive Source Separation (HPSS) Decomposition**  
K. Ganguli, C. Plachouras, S. Şentürk, A. Eisenberg, C. Guedes – Timbre 2020 [[Link](#)]
- **Mapping the Sounds of the Swahili Coast and the Arab Mashriq: Music research at the intersection of computational analysis and cultural heritage preservation**  
K. Trochidis, B. Russell, A. Eisenberg, K. Ganguli, O. Gomez, C. Plachouras, C. Guedes, V. Danielson – DLfM 2019 [[Link](#)]

## TEACHING

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- **Teaching Assistant**, ECS795P Deep Learning and Computer Vision, Queen Mary University of London  
Graduate level (MSc, PhD), led by Shaogang Gong Spring 2025

## ACADEMIC SERVICE

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- **Committee member**, Chair of *New to ISMIR* track, ISMIR Conference 2026
- **Reviewer**, ISMIR Conference 2025
- **Reviewer**, AES AIMLA 2025
- **Reviewer**, ISMIR Conference 2024