BRENDAN O'CONNOR – CV (last update: December-2023)
PhD Candidate (expected completion: December-2023)

PERSONAL DETAILS

LinkedIn: linkedin.com/in/brendanoconnorUK
Github: https://trebolium.github.io
Projects: vimeo.com/brendanoconnormusic
Music: soundcloud.com/brendanoconnormusic

Location:London
E-mail: brendan242424@gmail.com

PERSONAL STATEMENT

My career trajectory has navigated my passion from musical performance to music technology to applied computer science and machine learning. I develop software for audio analysis and synthesis while keeping the values of end-users in mind. My PhD research has allowed me to explore topics such as DSP, probabilistic machine learning, and qualitative/quantitative evaluation. I am eager to transfer these skills to other domains and am also excited by the prospect of expanding my knowledge in data analysis and machine learning in a company driven by results and commercial value. look forward to embracing new creative technologies to pursue efficient, state-of-the-art solutions.

OVERVIEW

Computational Practice
- Deep learning for audio and music – neural networks; generative and classification tasks; audio information extraction, embedding, disentanglement, conversion, generation; dataset analysis, pruning and preprocessing
- Interactive digital media techniques – UI design, creative programming, interactive software/instrument building
- Music Information Retrieval – tagging, pitch-tracking, beat-tracking, audio identification, cover-song detection
- Research methods – experimental design, quantitative and qualitative analysis, statistical testing
- Music and speech modelling – conversation models, voice models, timbre perception mapping

Artistic/Musical Practice
- Sound engineering –studio recording, mixing, and production; sound design; live sound
- Music composition – pop, rock, electronic, promotional, classical, experimental
- Sound art installations – see 'Projects' below for details
- Music performer – various festivals, private events, and concert halls
- Musical director, conductor, orchestrator, and/or audio programmer for various ensembles and environments

Management & Teamwork
- Supervising live music events, applying foresight and strategic thinking to resolve issues quickly under pressure
- Managing teams to work towards tight calendar deadlines and onsite event setup/de-rig time constraints
- Office experience – task delegation, progress tracking, team coordination, report submission
- Recruitment – sourcing sound engineers, consultation, interviews & training; business development

PUBLICATIONS

- O'Connor B, Dixon S. A Comparative Analysis of Latent Regressor Losses for Singing Voice Conversion. In Sound and Music Computing Conference. Stockholm, Sweden (2023) - https://arxiv.org/abs/2302.13678
- O'Connor B, Dixon S, Fazekas G. Zero-shot Singing Technique Conversion. In The 15th International Symposium of Computer Music Multidisciplinary Research. Tokyo, Sweden (2021) - https://arxiv.org/abs/2111.08839
- O'Connor B, Dixon S, Fazekas G. An Exploratory Study on Perceptual Spaces of the Singing Voice. In The 2020 Joint AI Conference on Music Creativity. vol. 1, Stockholm, Sweden (2020) - https://arxiv.org/abs/2111.08196
- O'Connor B. The Stuff of Voices. In The 6th Irish Sound Science and Technology Convocation, Dún Laoghaire, Ireland (2016) - https://soundcloud.com/radiofreeissta

PUBLIC ENGAGEMENT

- Zero-shot singing technique conversion – presentation (CMMR 2021)
- QMUL's Centre For Digital Music showcase – presentation (ISMIR, 2021)
- Singing style conversion – presentation (Singing and AI Interest Group, 2021)
- Perceptual Mapping of the Singing Voice – presentation (Joint AI Conference on Musical Creativity, 2020)
- Voice timbral mapping – presentation (Singing and AI Interest Group, 2020)

CREATIVE AND TECHNICAL SKILLS

- **Python:** Numpy, Pytorch, Scikit-learn; for software carpentry, DSP, machine learning, statistical analysis
- **Experience in:** Jupyter, git, bash, php, xml, java, html, css
- **Audio Software:** Logic X, Pro Tools, Sibelius, Praat, Sonic Visualizer, MaxMSP, PureData
- **Music:** Composition, orchestration, teaching, performance, conducting, musical directing

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EDUCATION & QUALIFICATIONS

PhD Candidate, Media Arts Technology CDT, Queen Mary University of London, 2023 (supervisor: Simon Dixon)
- **Key Modules:** Advanced Research Methods, Machine Learning, Software Development, Interactive Digital Multimedia Technologies, Sound Recording and Production Techniques, Digital Arts Documentary, Music and Speech Modelling, Music Informatics
- **PhD Topics:** Singing voice transformation, Music Information Retrieval, Neural Networks, Audio Synthesis

MA Music Technology and Composition, University of West London, 2015 (supervisor: Justin Paterson)
- **Key Modules:** Advanced Non-Linear Recording Techniques, Digital Audio Interface Design, Career Development, Interactive Music Technology, Electronic Music Composition, Research Methods
- **Master's Project:** An Exploration and Evaluation of Digital Vocal Manipulation Tools and Techniques

BMus Music, MTU Cork School of Music, 2011
- **Key Modules:** Music Technology, Composition, Music Theory, Conducting and Rehearsal, Musicianship Studies, Instrumental Performance, Communication and Interactive Teamwork, Music History

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WORK HISTORY

09/19 – present   **Teaching Assistant – School of Electrical Engineering and Computer Science, QMUL**
- Python Programming – collections, file I/O, flow control, objects, exceptions, regex
- Machine Learning – data preprocessing, regression, un/supervised learning, evaluation
- Artificial Intelligence – Tree/Informed/Local search, evolutionary algorithms, neural networks
- Creating Interactive Objects – Circuitry, Arduino, C++, interface design
- Digital Audio – studio and microphone techniques, DAWs, mixing
- Professional Research Practice – scientific/academic writing, referencing, ethical technology
- Delivering course curriculum, running labs, advising on student projects, marking exams

06/22 – 09/22   **Research Scientist Internship - TikTok**
- Python Software Engineering
- Research and Development in Machine Learning
- Designing frameworks for enhanced novel music generation of specific styles
- Presenting findings to teams across the SAMI research group

03/19 – 09/19   **AI software developer, MXX, London**
- Built singing-voice detection model
- Tailoring software to fit the brief of in-house musicologist and software developers
- Dataset curation, preprocessing, analysis and annotation
- Neural network frameworks

11/15 – 01/20   **Freelance Performance, Composition and Artistic Installations in Music, London**
- Designed and constructed music technology installations for various projects in London
- Online marketing and advertising
- Gained coverage and reviews on national radio, multinational magazines, TV shows, popular websites, forums and social media
- See 'Extras' below for a list of creative projects

02/18 – 09/18   **Audio Visual Manager, Earcandy, London**
- Recruiting and training sound engineers
- Briefing bands and sound engineers on event specs
- Managing warehouse equipment
- AV communications and team manager
- AV sales work, business development and client consultation
- Sound engineering for events

11/16 – 01/18   **Event Team Candidate Resourcer and Acting Senior Consultant - Off to Work, Greycoat Lumleys, London**
- *Administrative duties, office experience, recruiting event personnel - Further information available on request*

06/16 – 11/16   **Event Production and Logistics Team - Showforce, Burford Stratford, London**
- *Large-scale logistical planning, Live event rigging and derigging, team management - Further information available on request*

2007 - 2016   **Instrumental & Music Production Tutor - Entrepreneur, Various Agencies, and Institutions**
- Taught students to compose, record, produce, compose, practice and perform music in one-to-one, small groups, and large classroom environments.
- Admin – Updating weekly calendars, distributing newsletters, communicating, and submitting reports to managers, institution staff and parents.
- Designed and delivered comprehensive lesson-plans in line with institutions goals/curriculum.
- Organised and directed promotional events and concerts.
- Consultation on equipment, saving institutions over 50% on their budget.
- Set up all relevant equipment and teaching tools for each class/lecture.

04/09 – 10/13   **Live Act Co-founder and Manager**
- Maximized productivity by building strategies and creating agendas for upcoming performances, group meetings, and rehearsals
- Reached target audiences by producing & promoting professional music via social media
- Reduced onsite rigging/derigging times by 60% by strategic planning and critical analysis.
- Developed smooth, automated live shows by networking programmed laptops, lights, keyboards, foot controllers, and amp racks, with fail-safe alternatives.
- Accepted more instrumental responsibilities as the show expanded - from guitar to bass, keyboards, and voice

EXTRAS

Selected Art Projects:

Soundstitcher (sound art installation)	Tate Modern, Ars Electronica, 2019
Defence to Forbid (experimental sound art production)	Everything Must Go Festival, 2018
Igniting the Universe (interactive compositions)	We Are Robots, 2018
Painting Music (sound art installation)	Heart and Soul, 2018
Penillion (interactive graphics to performance)	Michael McGeary production, 2017
Floating Music (sound art installation)	Hackoustic, 2017

Showreel for above and other projects: vimeo.com/brendanoconnormusic

Awards/Recognitions:
Dad Status (O'Connor Family, 2023)
Top-reviewed conference paper (AI Music Creativity Conference, 2020)
Outstanding Contribution Award (Media Arts Technology CDT, QMUL, 2019)
MAT CDT Studentship (QMUL, 2018)
Selected Electroacoustic Composition (ISSTA, 2016)
Distinction in Audio Engineering (FETAC Level 5, 2013)
Choral Conducting and Rehearsals Intermediate Level Certificate (AOIC, 2011)
Best Wedding Live Music Act (Southern Bride Gold, 2011)
Barbara Harris Memorial Travelling Scholarship (CIT CSM, 2010)
Classical Guitar Perpetual Award (Feis Maitu Competition, 2009)
Classical Ensemble Award (Feis Maitu Competition, 2009)