Andrew McLeod

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▬▬▬ Academic Experience

Feb 2020–Present	**Researcher**, *EPFL*, Lausanne, Switzerland. Working with Martin Rohrmeier Topic: SNF Grant "Distant Listening to Harmony"; tracking harmony over time
Oct 2018–Nov 2019	**Researcher**, *Kyoto University*. Working with Kazuyoshi Yoshii Topic: Language modelling for automatic music transcription
July–Sept 2018	**Research Associate**, *University of Edinburgh*. Working with Mark Steedman Topic: Language modelling for automatic music transcription
August 2017	**Academic Visitor**, *Queen Mary University of London*, Centre for Digital Music. Hosts: Emmanouil Benetos and Rodrigo Schramm
2013–2014	**Research Associate**, *Emory University*, Atlanta, GA, USA. Working with James Lu Topic: Patchwriting and general NLP

▬▬▬ Teaching

Spring 2020	**Digital Musicology (DH-401)**, *EPFL*. ○ Psychoacoustics & Signal Processing lecture ○ 2 paper discussions

▬▬▬ Education

2014–2018	**Informatics PhD**, *University of Edinburgh*, School of Informatics, Edinburgh, UK. Supervisors: Mark Steedman (Primary), and Simon King (Assistant) Thesis: *The Language of Music: A Computational Model of Music Interpretation*. Examiners: Chris Lucas (internal) and David Temperley, Eastman School of Music (external).
2009–2013	**Math/CS joint BS/MS with Highest Honors**, *Emory University*, Atlanta, USA. Advisor: Li Xiong *Automatic Transcription of Polyphonic Musical Signals with Linear Matching Pursuit*. Examiners: Ken Mandelberg and Shun Yan Cheung. ○ Dean's List in Fall 2009, Spring 2010, Spring 2011, Fall 2011, and Spring 2012. ○ 2012 and 2013 Deborah Jackson Award winner for outstanding performance by an undergraduate student. ○ 2013 Trevor Evans Award winner for outstanding performance by a Math/CS major.

Supervision & Mentorship

2018 **MSc Supervision**, *University of Edinburgh*, Anna Greer, "Understanding Music Representation in Neural Networks for Key Identification", Music recommendation using harmonic intervals (co-supervised with Mark Steedman).

2017 **MInf Supervision**, *University of Edinburgh*, Finlay McAfee, "Automatic Harmonic Analysis of Jazz Solos" (co-supervised with Mark Steedman).

2015 **MSc Supervision**, *University of Edinburgh*, Catherine Sweetman, "Parsing of Polyphonic Rhythm" (co-supervised with Mark Steedman).

Industry Experience

2013–2014 **Technical Assistant**, *Math/CS Department*, Emory University, Atlanta, GA, USA.
- Developed programs and tools in PHP to assist admin and IT staff members.
- Developed a M68000 emulator in C and a backend to allow remote GDB debugging.

Summer 2012 **Technical Intern**, *Suntrust Banks, Inc.*, Atlanta, GA, USA.
- Designed and implemented strategy for knowledge gathering and knowledge management of testing data.
- Assisted in the updating of EIS Solutions Framework terms.
- Coded an excel macro to aid in the tracking of training courses.

2010–2012 **Technical Intern**, *Career Center*, Emory University, Atlanta, GA, USA.
- Assisted in redesign of Center website providing insight in user functionality and site aesthetics.
- Maintain website features including the development of interactive PowerPoint downloads, integration of career development instructional videos, and general content management.

Service

2020 **Reviewer**, *Transactions of International Society for Music Information Retrieval*.

2017–Present **Reviewer**, *International Society for Music Information Retrieval Conference*.

2015–Present **Member**, *International Society for Music Information Retrieval*.

20 July, 2016 **Organizer: 1st UK Music Informatics and Cognition (MIC) 2016 Workshop**, *University of Edinburgh*.
- Brought together music researchers from around the UK.
- See `http://homepages.inf.ed.ac.uk/amcleod8/mic2016.html`

2015-2016 **Reviewer**, *Journal of New Music Research*.

Outreach

2015–2016 **Crew Member: CompuCast, the computer science podcast**, *University of Edinburgh*.
- Bi-monthly podcast featuring computer science news and interviews with researchers.
- See `http://compucast.io/`

2016 **Demonstrator: Primary school age classes, teaching basic programming**, *University of Edinburgh*.
- INSPIRE Summer School 2016
- Sutton Trust Summer School 2016
- Edinburgh Science Festival 2016

Refereed Journal Articles

Andrew McLeod, Rodrigo Schramm, Mark Steedman, and Emmanouil Benetos. Automatic transcription of polyphonic vocal music. *Applied Sciences*, 7(12), 2017.

Andrew McLeod and Mark Steedman. HMM-based voice separation of MIDI performance. *Journal of New Music Research*, 45(1):17–26, 2016.

Refereed Conference Papers

Adrien Ycart, Andrew McLeod, Emmanouil Benetos, and Kazuyoshi Yoshii. Blending acoustic and language model predictions for automatic music transcription. In *International Society for Music Information Retrieval Conference (ISMIR)*, pages 454–461, 2019.

Tristan Carsault, Andrew McLeod, Philippe Esling, Jèrôme Nika, Eita Nakamura, and Kazuyoshi Yoshii. Multi-step chord sequence prediction based on aggregated multi-scale encoder-decoder networks. In *IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, 2019.

Andrew McLeod, Eita Nakamura, and Kazuyoshi Yoshii. Improved metrical alignment of MIDI performance based on a repetition-aware online-adapted grammar. In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, pages 186–190, 2019.

Andrew McLeod and Mark Steedman. Evaluating automatic polyphonic music transcription. In *International Society for Music Information Retrieval Conference (ISMIR)*, pages 42–49, 2018.

Andrew McLeod and Mark Steedman. Meter detection and alignment of MIDI performance. In *International Society for Music Information Retrieval Conference (ISMIR)*, pages 113–119, 2018.

Rodrigo Schramm, Andrew McLeod, Mark Steedman, and Emmanouil Benetos. Multi-pitch detection and voice assignment for a cappella recordings of multiple singers. In *International Society for Music Information Retrieval Conference (ISMIR)*, pages 552–559, 2017.

Andrew McLeod and Mark Steedman. Meter detection in symbolic music using a lexicalized PCFG. In *Sound and Music Computing Conference (SMC)*, pages 373–379, 2017.

Posters

Musical Meter Detection Using Context-Free Grammars.
- At the 1st UK Music Informatics and Cognition (MIC) 2016 Workshop, University of Edinburgh, (20 July, 2016).

Meter Identification of MIDI Using Pattern Detection.
- At the Late Breaking Demo session at ISMIR 2015, Malaga, Spain, (30 Oct, 2015).

Presentations

Meter Detection From Music Data.
- Joint work with Mark Steedman
- At DMRN+11: Digital Music Research Network One-day Workshop 2016, Queen Mary University of London, (20 December, 2016).

Symbolic Music Analysis for Music Transcription.
- At the 1st UK Music Informatics and Cognition (MIC) 2016 Workshop, University of Edinburgh, (20 July, 2016).