

# Andrew McLeod

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Informatics Forum  
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## 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*.
- August 2017 **Academic Visitor**, *Queen Mary University of London*, Centre for Digital Music, London, UK.  
Hosts: Emmanouil Benetos and Rodrigo Schramm
- 2009–2013 **Math/CS joint BS/MS with Highest Honors**, *Emory University*, Atlanta, USA.  
Advisor: Li Xiong  
Thesis: *Automatic Transcription of Polyphonic Musical Signals with Linear Matching Pursuit*. <https://etd.library.emory.edu/view/record/pid/emory:d70pn>  
Honors:
  - 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.
  - Selected to participate in Microsoft's "Golden Ticket" program (one of 50 students from around the US).
  - Placed 132nd out of 1515 teams in IEEE's IEEEExtreme 5.0 24 hour programming competition.

## Industry Experience

- 2013–2014 **Research Associate**, *Emory University*, Atlanta, GA, USA.  
Working with James Lu  
Topic: Patchwriting and general NLP
- 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.

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## Teaching & Mentorship

- 2018 **MSc Supervision**, *University of Edinburgh*, Anna Greer, Title TBD, 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).

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## Service

- 2017–2018 **Reviewer**, *18th 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/s1331854/mic2016.html>
- 2015–2016 **Reviewer**, *Journal of New Music Research*.

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## Outreach

- 2015–Present **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

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## 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.

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## Refereed Conference Papers

- Andrew McLeod and Mark Steedman. Evaluating automatic polyphonic music transcription. In *International Society for Music Information Retrieval Conference (ISMIR)*, 2018, to appear.
- Andrew McLeod and Mark Steedman. Meter detection and alignment of MIDI performance. In *ISMIR*, 2018, to appear.
- Rodrigo Schramm, Andrew McLeod, Mark Steedman, and Emmanouil Benetos.

Multi-pitch detection and voice assignment for a cappella recordings of multiple singers. In *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).