

# Cora Johnson-Roberson

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Doctoral candidate in music and masters' student in CS with 5 years of professional and open-source experience in machine learning (NLP/audio analysis) and full-stack development. Seeking to transfer my broad skillset from academia to industry. Dedicated self-starter excited to work with a dynamic team toward business objectives.

## Skills

### Languages

fluent Haskell, Java, Python, JS

proficient Scala, Ruby, Elm, PHP

### Frameworks

UI/viz D3.js, Ember

web Rails, Play

## Work Experience

**Frontend Developer (Freelance), Princeton University.** Built a *new site* for African-American Studies Dept. with designer Remeike Forbes. Enriched UX with a responsive WordPress theme. Saved client labor by writing a plugin for importing academic publications (PHP).

**Google Summer of Code Intern, Processing.org.** Created *Loom*, a library and declarative DSL for patterning audiovisual events (Java). Improved frame-based timing (>30 ms accuracy) to <1 ms by writing a soft real-time scheduler.

**Google Summer of Code Intern, MetaLAB @ Harvard.** Developed *Paper Machines*, Firefox extension for NLP/dataviz, with Jo Guldi (Python, D3). Offered insight into users' text corpora via topic modeling, NER, geoparsing.

**Presidential Instructional Technology Fellow, Harvard University.** Built a keyboard harmony trainer (JS). App used by all intro music theory courses the next year.

2017  
2016  
2015  
2014  
2013  
2012  
2011

## OSS

***servant-state-graph***. Visualizing state transition graphs for servant RESTful APIs (Haskell).

***Transbucket***. New features, refactoring, and functional tests for 70k-user image-sharing app (Rails).

***Susurrant***. Visualization/sonification for topic models of audio (Python, Elm). Presented at Global Digital Humanities 2015.

***OHHLA\_viz***. Visualization of Original Hip-Hop Lyrics Archive (D3, Ember). Shown at NIPS 2013 Topic Modeling Workshop.

***Paper Machines***. Continued maintenance after GSoC. Broadened compatibility by switching to Jython. Wrote a *new server* (Scala/Play).

***Musosphere***. Viz/mashup of Last.FM and Twitter API data (JRuby). Tracked musicians' relationships across social platforms.

## Education

2011–2017 **Sc.M. in Computer Science**, *Brown University*.

Thesis: Content-Based Genre Classification and Sample Recognition using Topic Models

**Ph.D in Ethnomusicology** (defending Oct 2017)

**M.A. in Ethnomusicology** (completed May 2013)

2007–2011 **A.B. cum laude in History & Literature & Music**, *Harvard University*.