

JON GILICK

ABOUT ME

I am a researcher with a background both in computer science and in the music production industry. In my current projects I use machine learning to explore new ways of understanding and creating music. Through my work I hope to enable a wider range of people to express and develop their musical creativity than has previously been possible.

EDUCATION

UC BERKELEY SCHOOL OF INFORMATION

Interdisciplinary department with researchers from computer science, social sciences, and design

2016-Present

Berkeley, CA

- PhD studies advised by David Bamman
- Research focused on methods and applications in Music Information Retrieval, Machine Learning, and Natural Language Processing.
- Coursework in Machine Learning, Probability, and Human Computer Interaction (GPA **3.84/4.0**)

WESLEYAN UNIVERSITY

2005-2009

Middletown, CT

- Earned a BA with high honors in computer science.
- Double majored in computer science and math with a major GPA of **3.8/4.0**.
- Honors thesis: "A Clustering Algorithm for Recombinant Jazz Improvisations"

PYRAMIND STUDIOS

Intensive training program in music production, composition, and audio engineering

2013 – 2014

San Francisco, CA

- Studied music production with emphasis on composition, recording, and proficiency with technology. Completed "Core" and "DSP" programs.

EXPERIENCE

RESEARCH INTERN, GOOGLE BRAIN

May – November 2018

Mountain View, CA

- Researched and implemented new methods for modeling drum performances with Variational Autoencoders. Organized and carried out data collection by hiring and recording professional drummers. Integrated work into Magenta Studio product.

RESEARCH SCIENTIST, INTONIC

Audio production startup moving into the music technology space to serve music creators

July 2017 – April 2018

Oakland, CA

- Designed and ran a study to explore the use of biosensory input coupled with machine learning models to assist users with music and audio creation.

SOFTWARE ENGINEER, MAGNIFI.FM

Music discovery and streaming service connecting fans with local bands

September 2015 – May 2016

San Francisco, CA

- Interacted with various partners and external API's to gather and integrate large data sets of concert events and metadata.
- Organized team to annotate data in order to train models for duplicate detection among data from different sources.
- Trained new employees in Ruby on Rails programming.

SOFTWARE ENGINEER, DARBY SMART

Online community where makers share their DIY project ideas

September 2014 – September 2015

San Francisco, CA

- Proposed, researched and delivered the company's first recommender system.
- Built new front and backend features in Ruby and JavaScript.
- Developed and ran A/B tests for a fast-growing base of users.

INTERN/ASSISTANT, SWELL MUSIC AND SOUND

Audio production studio for broadcast and media

September 2013 – May 2014

San Francisco, CA

- Recorded and composed music for ads, television, and bands.

FREELANCE MUSIC COMPOSER AND AUDIO ENGINEER

2013 – 2016

San Francisco, CA

- Created music and sound design for studios including Swell, Photon, and Intonic.

SOFTWARE ENGINEER, ANNKISSAM

Technology consulting for nonprofits

November 2009 – February 2012

Cambridge, MA

- Built custom web applications to help nonprofits manage their operations.
- Participated in planning company strategy, hiring, and business decisions.
- Managed communication with clients.

RESEARCHER, OREGON STATE UNIVERSITY

June – August 2009

Corvallis, OR

- Modeled success of environmental restoration in an Oregon river using regressions and graphical models.

RESEARCHER, HARVEY MUDD COLLEGE

June – August 2008

Claremont, CA

- Researched and implemented machine learning technique based on clustering and HMM's to create computer-generated jazz improvisations.

TEACHING ASSISTANT, WESLEYAN UNIVERSITY

January – May 2008

Middletown, CT

- Graded assignments and held weekly sessions for Introduction to Programming.

PUBLICATIONS

- **“Breaking Speech Recognizers to Imagine Lyrics.”** Gillick and Bamman – Neural Information Processing Systems Workshop on Creativity (**NeurIPS Creativity**), 2019.
- **“Estimating Unobserved Audio Features for Target-Based Orchestration.”** Gillick, Cella, and Bamman – International Society of Music Information Retrieval (**ISMIR**), 2019.
- **“Learning to Groove with Inverse Sequence Transformations.”** Gillick, Roberts, Engel, Eck, and Bamman – International Conference on Machine Learning (**ICML**), 2019.
- **“Magenta Studio: Augmenting Creativity with Deep Learning in Ableton Live.”** Roberts, Engel, Mann, Gillick, Kayacik, Norly, Dinculesu, Radebaugh, Hawthorne, and Eck – Workshop on Musical Metacreativity (**MuMe**), 2019.
- **“Please Clap: Modeling Applause in Campaign Speeches.”** Gillick and Bamman – North American Chapter of the Association of Computational Linguistics (**NAACL**), 2018
- **“Telling Stories with Soundtracks: An Empirical Analysis of Music in Film.”** Gillick and Bamman - North American Chapter of the Association of Computational Linguistics, Storytelling Workshop (**NAACL**), 2018
- **“Capturing, Representing, and Interacting with Laughter.”** Ryokai, Duran, Howell, Gillick, and Bamman – Conference on Human Factors in Computing Systems (**CHI**), 2018
- **“Estimating the Date of First Publication in a Large-Scale Digital Library.”** Bamman, Carney, Gillick, Hennesy, and Sridhar – Joint Conference on Digital Libraries (**JCDL**), 2017
- **“Machine Learning of Jazz Grammars.”** Gillick, Tang, and Keller – Computer Musical Journal (**CMJ**), 2010
- **“Learning Jazz Grammars.”** Gillick, Tang, and Keller – Sound and Music Computing Conference (**SMC**), 2009
- **“A Clustering Algorithm for Recombinant Jazz Improvisations.”** Honors Thesis, Wesleyan University, 2009
- All papers available online at jongillick.com

AWARDS

BERKELEY GRADUATE DIVISION SUMMER RESEARCH GRANT

June - August 2019

CONFERENCE TRAVEL GRANT, UC BERKELEY

July 2019

HONORABLE MENTION, NSF GRADUATE RESEARCH FELLOWSHIP

March 2018

BERKELEY FELLOWSHIP FOR GRADUATE STUDY

September 2016 – August 2018

- Received a fellowship awarded to Berkeley's top admitted doctoral students supporting two years of tuition and living expenses.

NSF RESEARCH EXPERIENCE FOR UNDERGRADUATES

June - August 2008, June – August 2009

- Twice awarded NSF fellowships for summer research for undergraduates - In 2008 at Harvey Mudd College, and in 2009 at Oregon State University.

ACADEMIC SERVICE

REVIEWER

- Association for Computational Linguistics (ACL)
- Computer Music Journal (CMJ)
- Designing Interactive Systems (DIS)

PROGRAM COMMITTEE MEMBER

- Workshop on Storytelling at ACL (StoryNLP 2019)

PHD STUDENT REPRESENTATIVE

- Represented PhD students in departmental faculty meetings.

INVITED TALKS

MACHINE LEARNING, MUSIC, AND THE FEELING OF CREATIVITY

September 2019

Berkeley, CA

- First annual Synthesis Conference: Interdisciplinary Collaboration in Computational Music Research, CNMAT (September 2019)

MAKING TECHNOLOGY FOR CREATIVITY

August 2019

San Francisco, CA

- Pyramind Music Production School

MAKING BEATS WITH MACHINE LEARNING

2019

Berkeley, CA

- UC Berkeley School of Information (February 2019)
- UC Berkeley EECS Department (April 2019).