

Jason Cramer

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EDUCATION

NYU TANDON

PHD IN ELECTRICAL ENGINEERING
Aug 2017 - Present | Brooklyn, NY
GPA: 3.95

UC BERKELEY

B.S. IN ELECTRICAL ENGINEERING
AND COMPUTER SCIENCES, HONORS
EECS Honors Program - Music/Audio
Aug 2011 - May 2015 | Berkeley, CA
GPA: 3.798

SALESIANUM SCHOOL

HIGH SCHOOL DIPLOMA
Aug 2007 - May 2011 | Wilmington, DE
GPA: 4.3

COURSEWORK

GRADUATE

Machine Learning & Artificial Intelligence
Digital Signal Processing
Probability and Stochastic Processes
Statistical Signal Processing
Statistical Learning Theory

UNDERGRADUATE

Data Structures & Algorithms
Music Perception and Cognition
Computer Music
Compilers and Languages
Parallel Programming

SKILLS

DIGITAL SIGNAL PROCESSING

Wiener filtering • Noise suppression for
speech enhancement systems

MACHINE LEARNING

Deep Learning • SVMs • NMF/PLCA •
Markov models

PROGRAMMING

Python • Matlab • C • C++ • Scala • Java
• HTML • \LaTeX • JavaScript • UNIX Shell

MUSIC INFORMATION RETRIEVAL

Genre and mood classification • Source
separation • Structural segmentation

MISC.

AWS • Visualization • Web applications

RESEARCH

MUSIC AUDIO RESEARCH LABORATORY

JUAN BELLO, JUSTIN SALAMON

GRADUATE STUDENT RESEARCHER

September 2017 - Present | New York, NY

As a part of the machine listening team of the [SONYC](#) project, investigating self-supervised learning of an effective deep audio embedding using the relationship between audio and visual content in videos. Evaluating the efficacy of these and other audio embeddings for the task of urban sound classification.

NVIDIA

BRYAN CATANZARO, RAFAEL VALLE, RYAN PRENGER

APPLIED DEEP LEARNING RESEARCH INTERN

May 2018 - August 2018 | Santa Clara, CA

Investigated audio inpainting methods using text-to-speech inspired sequence-to-sequence models.

GRACENOTE APPLIED RESEARCH

MARKUS CREMER, BOB COOVER

AUDIO RESEARCH ENGINEER

June 2015 - July 2017 | Emeryville, CA

Researched and developed machine learning models to perform classification of musical audio signals for tasks such as genre classification, vocal detection, and fingerprint query optimization.

CENTER FOR NEW MUSIC & AUDIO TECHNOLOGY

DAVID WESSEL, EDMUND CAMPION

UNDERGRADUATE RESEARCHER

August 2014 - May 2015 | Berkeley, CA

Worked with [Prof. David Wessel](#), [David Bourgin](#), and [Rafael Valle](#) to model musical sequences for the task of machine improvisation using an extension of author-topic modeling.

STATISTICAL LEARNING THEORY (COURSE)

BEN RECHT

STUDENT

October 2014 - December 2014 | Berkeley, CA

For [class research project](#), developed an online algorithm for performing source separation of instruments in musical audio streams using an adaptation of PLCA.

MUSIC PERCEPTION AND COGNITION (COURSE)

DAVID WESSEL, MATTHEW GOODHEART

STUDENT

Oct 2014 - Dec 2014 | Berkeley, CA

For class research project, developed an online algorithm for performing source separation of instruments in musical audio streams using source-filter models, using the FAAST library.

VIDEO AND IMAGE PROCESSING LAB

AVIDEH ZAHKOR

UNDERGRADUATE RESEARCHER

Sept 2013 - May 2014 | Berkeley, CA

Worked with [Omar Oreifej](#) and [Prof. Avidesh Zahkor](#) to develop a visualization application to demonstrate the utility of a [indoor modeling backpack device](#) for energy auditing.

OTHER PROJECTS

TIDEGAN

CLASS PROJECT

A style transfer model for audio using cycle-consistent generative adversarial networks.

MARKOV MIXER

DESIGNED LAB/PROJECT

A project starter kit for students to extend. Generates a real time DJ mix using a parameterizable Markov chain with transitions between autocorrelation peaks.

FORTISSIMO

CLASS PROJECT

Music programming language for making simple programmatic music. Video [here](#).

AUGMENTED REALITY DIGITAL AUDIO WORKSTATION

HACKATHON PROJECT

Web app using AR trackers as parameter tuners for waveforms and instruments to create live music

AWARDS & HONORS

- 2017 Samuel Morse MS Fellowship
NYU Tandon
- 2016 Music/Auto Challenge
Gracenote 5.0 Hackathon
- 2015 Auto Podcast Challenge
Gracenote 4.0 Hackathon
- 2013 3rd Place
CSUA Hackathon
- 2013 3rd Place
Code 4 Cal Hackathon
- 2011 Edward Frank Kraft Award
UC Berkeley
- 2011 Top of Class
Salesianum School

SOCIETIES

- 2015 MIR @ Berkeley Cofounder
- 2012 C.S. Undergraduate
Association Member
- 2012 Eta Kappa Nu Honor Society
Member

HOBBIES

Piano • Synthesizers • Drumming •
Listening to music • Attending
concerts • Rhythm-based video games

PUBLICATIONS

C. Summers, G. Tronel, J. Cramer, A. Vartakavi, and P. Popp, “GNMID14: A Collection of 110 Million Global Music Identification Matches,” in *Proceedings of the 39th International ACM SIGIR Conference on Research and Development in Information Retrieval*, SIGIR '16, (New York, NY, USA), pp. 693–696, ACM, 2016.

O. Oreifej, J. Cramer, and A. Zakhor, “Automatic Generation of 3D Thermal Maps of Building Interiors,” in *ASHRAE*, 2014.

PATENTS

M. Cremer, J. Cramer, P. Popp, and C. Summers, “Responding to remote media classification queries using classifier models and context parameters,” July 6 2017. US Patent App. 15/185,616.

J. Cramer, M. Cremer, P. Popp, and C. Summers, “Model-based media classification service using sensed media noise characteristics,” July 6 2017. US Patent App. 15/185,654.

INDUSTRY

NVIDIA

APPLIED DEEP LEARNING RESEARCH INTERN

May 2018 – August 2018 | Santa Clara, CA

Investigated audio inpainting methods using text-to-speech inspired sequence-to-sequence models.

GRACENOTE

AUDIO RESEARCH ENGINEER

June 2015 – July 2017 | Emeryville, CA

Researched and developed audio classifiers to describe attributes of music.

BLUE JEANS NETWORK

MEDIA SOFTWARE ENGINEERING INTERN

May 2014 – August 2014 | Mountain View, CA

Refactored and improved the WebRTC and Speex noise suppression modules.

GUIDEWIRE

SOFTWARE ENGINEERING INTERN

June 2013 – August 2013 | Foster City, CA

SIEMENS HEALTHCARE DIAGNOSTICS

SOFTWARE ENGINEERING INTERN

June 2012 – August 2012 | Glasgow, DE

TEACHING

INTRODUCTION TO MACHINE LEARNING (ECE-GY 6143)

ANNA CHOROMANSKA

TEACHING ASSISTANT

September 2018 – December 2018 | NYU Tandon | Brooklyn, NY

PROBABILITY AND STOCHASTIC PROCESSES (EE 126)

ABHAY PAREKH

UNDERGRADUATE STUDENT INSTRUCTOR

January 2015 – May 2015 | UC Berkeley | Berkeley, CA

STRUCTURE AND INTERPRETATION OF SIGNALS AND SYSTEMS (EE 20N)

BABAK AYAZIFAR

UNDERGRADUATE STUDENT INSTRUCTOR

August 2014 – December 2014 | UC Berkeley | Berkeley, CA