

# Aaron Karp

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## Education

- 2017-2019 **MA in Digital Musics**, *Dartmouth College*, Hanover, NH.  
2013-2017 **BS in Music, Computer Science**, *Northwestern University*, Evanston, 3.57.  
CS Concentrations: *Interfaces* and *Artificial Intelligence*

## Research

- 2016-2017 *Interactive Audio Lab, Northwestern University*  
professor Dr. Bryan Pardo  
projects *Haptic Equalizer*: Created a physical system which allows users to create complex line graphs by touch. The system consists of a chain resting on a board and a camera pointed at the board. The camera reads the scene as users manipulate the chain freely, thus allowing people with visual impairments to directly manipulate audio effects using industry-standard representations. For demonstration, this input was used to update an equalizer plugin in Ableton Live in realtime. A paper detailing HaptEQ has been accepted to the 2017 ACM Audio Mostly conference.
- Non-Visual Audio Editing*: Prototyped a phone-based system for editing speech recordings using a standard phone keypad. Audio was split into salient chunks, allowing users to navigate through the chunks and easily delete segments. Areas of relative silence in the audio were also cut, as the userbase of older adults often had extended periods of silence in their speech patterns.

## Experience

### Vocational

- 2018-2019 **Teaching Assistant**, Dartmouth College.  
Assisted professors in undergraduate courses including Global Sounds, Introduction to Sonic Arts, and Programming for Interactive Audio-Visual Arts.
- 2017 **Research Assistant**, *Learning Sciences Lab*, Northwestern University.  
Exploring accessibility of 3D fabrication software by connecting a custom natural language understanding engine to Blender.
- 2015 **IT Consultant**, *School of Education and Social Policy*, Northwestern University.
- 2013-2014 **Lutkin Monitor**, *Lutkin Recital Hall*, Northwestern University.  
Co-manager of student and faculty recital hall.

## Volunteer

- 2015-2017 **AMPED**, *Mentor*, Northwestern University.  
Taught music production and songwriting skills to 15-17-year-old residents at the Cook County Juvenile Temporary Detection Center. Over the course of 10 weeks, each resident gained the technical ability to articulate their thoughts musically and produce two original songs.

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## Awards

- 2018 **Best Graduate Research Writing**, Dartmouth College.  
Awarded for a write-up of my thesis proposal.
- 2017 **Best Presentation**, *Runner Up*, Audio Mostly Conference.  
Awarded for presentation of the HaptEQ system in London.
- 2016 **Summer Undergraduate Research Grant**, Northwestern University.  
Awarded a research grant to pursue work on audio production interfaces for people with visual impairments.
- 2016 **Best Use of API**, *Wildhacks*, Northwestern University.  
Awarded at a hackathon for JiffyPrint, a chrome extension which allowed users to easily print photos from the anywhere online and have them delivered within the hour.
- 2012 **Stew Whitman Memorial 1st Place Award**, *Gill Heart Institute Cardiovascular Research Day*, University of Kentucky.  
Co-authored the first-place poster under the mentorship of Dr. Jonathan Satin and Janet Manning in the University of Kentucky Physiology Department.

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## Recent Works

- 2018 *Tare* - for String Quartet, 3 Sopranos, and Reel-to-Reel  
Premiered by the Mivos Quartet at Dartmouth College in May 2018
- 2018 *Traces* - Sound Design for Animated Short Film  
Premiered at the Digital Arts Exposition at Dartmouth College in June 2018
- 2018 *Introduction* - for Fixed Media  
Premiered at the Digital Arts Exposition at Dartmouth College in June 2018  
Played at the International Computer Music Conference in Daegu, South Korea in August 2018
- 2017 *Restrained Form* - installation of Wood, Metal Sheet, Rope, and Bass Shaker  
Installed at Dartmouth College in December 2018

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## Publications

Aaron Karp and Bryan Pardo. Hapteq: A collaborative tool for visually impaired audio producers. In *Proceedings of the 12th International Audio Mostly Conference on Augmented and Participatory Sound and Music Experiences*, AM '17, pages 39:1–39:4, New York, NY, USA, 2017. ACM.

Robin N. Brewer, Mark Cartwright, Aaron Karp, Bryan Pardo, and Anne Marie Piper. An approach to audio-only editing for visually impaired seniors. In *Proceedings of the 18th International ACM SIGACCESS Conference on Computers and Accessibility*, ASSETS '16, pages 307–308, New York, NY, USA, 2016. ACM.

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