Aaron Karp

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 haptically. The system consists of a chain resting on a board and a camera pointed at the board. Users can manipulate the chain freely and the camera reads in the scene, thus allowing people with visual impairments to directly manipulate audio effects using industry-standard representations. As a sample use case and for demonstration purposes 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.
Held the position of TA in numerous courses while in graduate school, 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.

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Volunteer

2015-2017 **AMPED**, *Mentor*, Northwestern University.
Worked with 15-17-year-old residents at the Cook County Juvenile Temporary Detection Center, teaching them music production and songwriting skills. Over the course of a 10-week session, residents gain the technical ability to musically articulate their thoughts, as is shown in the two original songs each resident produces by the end of the program.

Awards

2018 **Best Graduate Research Writing**, Dartmouth College.
Awarded for a write-up of my thesis topic proposal.

2017 **Best Presentation**, *Runner Up*, Audio Mostly Conference.
Awarded for my 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.

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

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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