PREM S SEETHARAMAN

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CONTACT

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EDUCATION
Northwestern University, Evanston, IL
PhD Candidate, Computer Science - in progress
MS, Computer Science - 2015
BS, Computer Science, Music Composition - 2013

RESEARCH INTERESTS
audio source separation, human computer interaction, creativity support tools, multimedia information retrieval, music structure and theory, machine learning

WORK

Northwestern University, Evanston, IL
Doctoral Student in Interactive Audio Lab   2013 - Present
Working with Professor Bryan Pardo on problems in audio source separation, music information retrieval, semantic audio processing, and human computer interaction.

Northwestern University, Evanston, IL
Teaching Assistant   2014 - Present

Adobe Research, San Francisco, CA
Research Intern   2017
Worked on speech enhancement, creativity support tools for podcast production, and audio quality prediction.

Gracenote, Emeryville, CA
Applied Research - Intern   2016
Worked on problems in media recognition and retrieval, specifically cover song identification.

Northwestern University, Evanston, IL
Researcher   2011 - 2012
Worked with Professor Peter Dinda, and Stephen Tarzia on problems in acoustics. Developed this acoustics research as a mobile application for Android and iOS.

PROJECTS
Audealize   2015
Developed and evaluated a novel interface for controlling an audio production tool such as an equalizer (which controls the strengths of frequencies in audio) or a reverberator (which adds echo effects to audio). We found that novice

users preferred Audealize (http://audealize.appspot.com) over traditional audio production interfaces for audio production tasks.

SocialReverb and Reverbalize   2014
Developed a crowdsourcing methodology to collect words that describe the effect of reverberation. Leveraged this data to create a novel reverberation controller: Reverbalize (http://reverbalize.appspot.com), which is controlled through simply describing the effect (make it sound like it's in a "church").

ClapIR   2011 - 2012
Developing automated acoustics software, based on the recording of an impulse in a room (a clap or balloon pop). The recording of a clap is used to compute reverberation time, frequency decay, and frequency response of any given room. Available for iPhone and Android.

GRANTS

CIRA grant   2016-2017
Center for Interdisciplinary Research in the Arts at Northwestern University.

"Deep learning, artificial intelligence, and the composition and performance of new vocal music". Amount: $4000

HONORS

Todd M. and Ruth Warren Fellowship

PAPERS

Manilow, Ethan, **Prem Seetharaman**, Fatemeh Pishdadian, and Bryan Pardo. "Predicting Algorithm Efficacy for Adaptive Multi-Cue Source Separation." *Applications of Signal Processing to Audio and Acoustics, 2017. WASPAA'17. IEEE Workshop on.* IEEE 2017

Seetharaman, Prem, Fatemeh Pishdadian, and Bryan Pardo. "Music/voice separation using the 2D Fourier Transform." *Applications of Signal Processing to Audio and Acoustics, 2017. WASPAA'17. IEEE Workshop on.* IEEE 2017

Donovan, Michael, **Prem Seetharaman**, and Bryan Pardo. "A Web Audio Node for the Fast Creation of Natural Language Interfaces for Audio Production." *3rd Web Audio Conference*, London, UK, August 21-23, 2017.

Seetharaman, Prem, and Zafar Rafii. "Cover Song Identification with 2D Fourier Transform Sequences." *42nd International Conference on Acoustics, Speech, and Signal Processing*, New Orleans, USA, March 5 - 9, 2017.

Zheng, Taylor, **Prem Seetharaman**, and Bryan Pardo. "SocialFX: Studying a Crowdsourced Folksonomy of Audio Effects Terms." *Proceedings of the ACM International Conference on Multimedia.* ACM, 2016.

Seetharaman, Prem, and Bryan Pardo. "Simultaneous separation and segmentation in layered music" *Proc. of the 17th International Society for Music Information Retrieval Conference (ISMIR).* New York City, NY, USA, 2016

Seetharaman, Prem, and Bryan Pardo. "Audealize: Crowdsourcing Audio Production Tools" *Journal of the Audio Engineering Society.* 2016

Seetharaman, Prem, and Bryan Pardo. "Reverbalize: a crowdsourced reverberation controller." *Proceedings of the ACM International Conference on Multimedia.* ACM, 2014. (Technical Demo Abstract)

Seetharaman, Prem, and Bryan Pardo. "Crowdsourcing a reverberation descriptor map." *Proceedings of the ACM International Conference on Multimedia.* ACM, 2014.

Seetharaman, Prem, and Stephen P. Tarzia. "The Hand Clap as an Impulse Source for Measuring Room Acoustics." *Audio Engineering Society Convention 132.* Audio Engineering Society, 2012.

EXTERNAL SERVICE	**Conference Reviewer** ACM Multimedia	2016
	Conference Reviewer ISMIR	2016
	Conference Reviewer ICASSP	2016
	Conference Reviewer ISMIR	2015
	Conference Reviewer WASPAA	2015
	Journal Reviewer IEEE Transactions on Multimedia	2015
References	Bryan Pardo	pardo@northwestern.edu
	Gautham Mysore	gmysore@adobe.com
	Zafar Rafii	zrafii@gracenote.com