# Gabriel Zalles

*Audio technology master*

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## Education

2012–2016 **BA**, *UC San Diego*, La Jolla, *Bachelors*.
Interdisciplinary Computing in the Arts Major

2016–current **MA**, *NYU*, New York, *Masters*.
Music Technology

## Master thesis

Title *Design of a highly coincident microphone array for stereo and surround sound.*

Supervisors Agnieszka Roginska

Description Evaluating the effects of increased capsule coincidence in FOA recordings by using state-of-the-art MEMS capsules. A subjective assessment of a first order ambisonic array with extreme capsule coincidence was conducted. The experiment sought to determine if improvements towards spatial aliasing can outweight the SNR deficits of MEMS systems in FOA arrays.

## Experience

### Professional

2017–current **Research Assistant**, *NYU*, New York City, New York.
Currently working as a research assistant under the guidance of Agnieszka Roginska at NYU conducting several experiments in her area of expertise: immersive audio. As a research assistant I have had the privilege of assisting her with a THX collaboration which evaluated binaural renderers used for spatial audio reproduction.

2017–current **DSP Tutor**, *NYU*, New York City, New York.
I am also currently a tutor for incoming graduate students taking DSP for the first time. As a tutor I am required to help students with the programming environment MATLAB as well as help them understand the core concepts behind digital signal processing.

2017 **Studio Manager**, *NYU*, New York City, New York.
As a studio manager at NYU Steinhardt I was in charge of booking studio time for students and faculty, lending out music equipment and doing inventory on a daily basis. I was also tasked with working closely with maintenance and IT personnel to ensure that software remained up-to-date and studio equipment functioned correctly.

2016 **AV Technician**, *UCSD*, San Diego, California.
At UCSD I worked as an Audio Visual technician and was responsible for individually or in coordination with a team set-up and strike audio and lighting equipment used during concerts, conferences and other events. As an AV Tech I was in charge of understanding the principles of live mixing, signal flow, and lighting in order to make events successful.

## Publications

### Papers

2017 **Audio Engineering Society 143**, A Low-Cost, High-Quality MEMS Ambisonic Microphone, NYU.
Zalles et al. PDF

2017 **Audio Engineering Society 143**, Evaluation of Binaural Renderers: A Methodology, NYU.
Reardon et al. PDF

2018 **Audio Engineering Society 144**, Evaluation of Binaural Renderers: Externalization, Front/Back and Up/Down Confusions, NYU.
Reardon et al. PDF

2018 **Audio Engineering Society 144**, Evaluation of Binaural Renderers: Localization, NYU.
Reardon et al. PDF

2018 **Audio Engineering Society AVAR**, Evaluation of Binaural Renderers: Multidimensional Sound Quality Assessment, NYU.
Reardon et al. PDF

2018 **Audio Engineering Society AVAR**, Acoustic perturbations in HRTFs measured on Mixed Reality Headsets, NYU.
Genovese et al. PDF

## Languages

Spanish **Native**

English **Fluent**

French **Proficient**

## CS

Expert MATLAB, HTML, CSS

Fluent Pure Data, MAX, Unix, Git

Familiar C++, JS

## Interests

Tennis I have been playing tennis for over 10 years, I like to play both single and doubles. My favorite professional player is Juan Martin del Potro from Argentina.

Books I like to read in my spare time. My favorite genre of book is science-fiction. I also enjoy psychology books such as those by Dan Ariely.

Music When I am not listening to music I like to play guitar and make music using my computer. I also enjoy experimenting with algorithmic composition and learning covers from my favorite bands.

## References


- Agnieszka Roginska — roginska@nyu.edu
- Tae Hong Park — tae.hong.park@nyu.edu
- Schuyler Quackenbush — srq@audioresearchlabs.com

To whom it may concern,

I write this letter today with the hope that you will find it an adequate addition to my *curriculum vitae*. I am a graduate student at New York University studying music technology and specializing in the field of immersive audio, which entails applying psycho-acoustic principles of sound in virtual reality experiences in order to create realistic audio scenes.

I completed my bachelors at University of California San Diego where I graduated with a degree in Interdisciplinary Computing in the Arts with a concentration in music. As a student at UCSD I was involved with a number of different organizations related to my field of study including: Associated Students Concerts and Events, an organization dedicated to organizing and curating music concerts and festivals for students on campus; The Deejay and Vinylphiles Club, a group which supports the musical arts and proliferation of electronic music at UCSD; and the KSDT Radio Station, a university radio station which allowed me to emcee my very own show of curated play lists. Vocationally, I also had the honor of working as an Audio Visual Technical Assistant for a year at UCSD, which taught me about live mixing and lighting principles.

Over the last year and a half I have been focusing primarily on finishing my masters degree and am currently in the process of writing my final thesis. I am concurrently working as a research assistant and tutor which is both challenging and rewarding. At NYU I forced myself to take considerably more technically advanced classes in order to acquire more skills I believe the job market is looking for. Specifically, I targeted my efforts towards programming, electronics, and acoustics courses.

For my thesis I have had the privilege and benefit of being able to work on a project which is near and dear to my heart and which has given me the chance to learn many new skills and principles I was unaware of previously. Namely, I was given the opportunity to work in a state-of-the-art Makerspace at NYU making using of 3D printers, CNC machines, laser cutters and many other tools to develop my own MEMS operated ambisonic microphone.

My first published paper was also entered as a candidate for the student design competition at AES 143 and awarded the Bronze price. Using the same project, our team later applied to and entered a start-up competition at NYU which rewarded us with a grant from the Convergence for Innovation and Entrepreneurship Institute. During the competition we conducted customer interviews to determine the viability of the MEMS FOA system as a commercial product. We are still working on this project which is also the subject of my thesis.

I hope that this letter has provided you with greater insight into my life and work. I am confident that I can offer you the problem-solving, managerial and executive skills you are seeking. Feel free to call or email to arrange an interview. Thank you for your time. I look forward to learning more about this opportunity.

Yours faithfully,

Gabriel Zalles