

# Nicholas Solem

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## EMPLOYMENT

### UNIVERSITY OF CALIFORNIA SAN DIEGO

San Diego, CA

*Reader*

September 2018 – Present

- Grade undergraduate student papers and projects
- Help individual students with mastery of course content
- Courses: Musical Psychoacoustics, Computer Music I, Audio and MIDI Studio Techniques I

*Graduate Student Researcher – Studio*

September 2018 – Present

- Hold sessions to ensure graduate student understanding of recording studios and equipment
- Assist with audio troubleshooting for all students: signal flow, digital audio workstations, preamp setup

*Technical Maintenance*

June 2019 – Present

- Setup, monitor, and tear down professional sound and lighting configurations for various campus events
- Miscellaneous audio and video equipment testing and conservation

### ART INSTITUTE OF MICHIGAN

Novi, MI

*Adjunct Audio Professor*

April 2018 – September 2018

- Taught Acoustics, Sound for Interactive Media, and other undergraduate Audio courses
- Responsible for daily lectures, grading, and leading in-class labs

### EVENTIDE AUDIO

Little Ferry, NJ

*Audio Software Intern*

January 2017 – June 2017

- Write Python script for automatic generation of end user documentation from C++ source code
- Identify faults in presets of upcoming multi-effects studio rackmount unit & maintain record of faults

### NEW YORK UNIVERSITY

New York, NY

*Max/MSP Tutor*

January 2017 – June 2017

- Ensure graduate and undergraduate students understand Max/MSP course material
- Become familiar with student needs & develop individualized approach for each

*Studio Technician*

January 2016 – June 2017

- Daily calibration & maintenance of Steinhardt's 7 music studios and other building facilities
- Assist faculty and students in troubleshooting of studio and equipment workflow

## EDUCATION

### University of California, San Diego

San Diego, CA

*Doctor of Philosophy in Computer Music, September 2018 - Present*

Continuing Research in DSP: Automated Waveform Abstraction, Virtual Analog Filter Design, Nonlinear Modeling

### New York University

New York, NY

*Master of Music in Music Technology, Fall 2017*

Focus on Digital Signal Theory: Digital Filter Design, Digital Synthesis, Frequency Domain Morphing

### The College of Wooster

Wooster, OH

*B.A. in Philosophy, Spring 2015*

Graduated with Cum Laude and Honors

## PROJECTS

- Master's Thesis: *A Realtime Algorithm for Spectral Morphing*  
Improves on and generalizes a recently developed method for frequency-domain morphing between arbitrary sounds, entirely in realtime.
- Eventide Help Files  
Created Python script to generate a hierarchically organized set of digital user help files with the aid of Sphinx, a documentation generator.
- Undergraduate Honors-Earning Thesis: *Can Pure Music Be Meaningful?*

## TECHNICAL SKILLS

Programming:	C++, C, Matlab, Python, Javascript	Experienced with JUCE C++ Framework
DAWs:	Logic, Pro Tools, Reason, Reaper, Live	Digital Signal Processing Theory & Implementation
Electronics:	Soldering, LTSpice, Multisim	Music Information Retrieval Techniques
Music:	Music Theory, Tuning Theory, etc.	Max/MSP & PureData, Externals Programming in C