

# BRENDAN BERNHARDT GAFFNEY

## I HAVE A PASSION

for developing and building physical and electronic tools for creative minds, the pedagogical means by which we enable creativity and for innovation, enthusiasm and invention within communities and collectives.

## CONTACT

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## QUALIFICATIONS

- *Unique pedagogical experience* teaching children and adults the use of computers and electronics as a means of self-expression, practical application and excitement in education.
- *Professional training and experience* in computer aided-design, fabrication and programming.
- *Creative work* in furniture and instrument design, music composition, production and performance.
- *Academic work and research* in music perception, creative programming and interaction design.

## EMPLOYMENT

### *Fab Lab, San Diego, CA*

Working with FabLab San Diego, an MIT Maker educational initiative, as an engineer managing their CAD facilities and running workshops and classes in new technology and programming for all ages. Oversaw development of workshops for Maker Faires, public library workshops, and outreach programs.

### *UCSD Graduate Researcher and Teaching Assistant, San Diego, CA*

Teaching assistant under Tom Erbe in the Interdisciplinary Computing and the Arts Major, and researcher in the Sonic Arts group at UCSD's Qualcomm Institute.

### *La Jolla Country Day School, San Diego, CA*

Middle and upper school teacher of industrial design, 3D design and fabrication, graphic design and electronics to students in fourth through ninth grade. Developed a number of original classes aimed at enabling creatively minded students in the use of computers and new technology.

### *Freelance Instrument Design and Modification*

Modifying consumer electronics with new features and interfaces requested by clients, building up my own business, burnHeartSynth, and creating new programs, hardware interfaces, musical instruments and tools for artists, performers and composers.

### *Zankel Music Center, Saratoga Springs, NY*

Supervising recording and live sound engineer, responsible for live sound and recording quality of performances at brand-new \$50M performance venue.

## EDUCATION

*Hartsbrook Waldorf High School, Hadley, MA*  
Studied from 2005-2008

*Skidmore College, Saratoga Springs, NY*  
Earned a Bachelor of Arts, *Cum Laude*, in *Sound*.  
Studied from 2008-2012

*University of California, San Diego, CA*  
Earned a Master of Arts in Computer Music.  
Studied from 2012-2014

*C.R. Fine Woodworking, Fort Bragg, CA*  
Education in Fine woodworking, emphasis on hand tool usage, furniture, luthiery and tool building.  
Studied from 2014-2015 (in progress)

## ACCOLADES

*Author/Presenter*, Sound and Music Computing, presented and published research on chaotic systems and interface design at the 2013 Stockholm, Sweden conference.

*Periclean Award Winner*, Spring 2012, the highest honor given to senior theses at Skidmore College.

*Winner*, Arts Planning Board of the Arthur Zankel Music Center Interdisciplinary Grant, 2012. Used for senior thesis project researching, designing and producing a new computer music interface.

*Presenter*, Solid Sound Festival, MassMOCA, 2011. Showcased original instruments and participated in forum on Handmade Music.

*Dean's Highest Honors*, Spring '11, Fall '11 & Spring '12 and *Dean's Honors* Fall '08, Fall '10 & Spring '10

*Winner*, Treuhaf Fund for Art Technology Grant, 2009. Used to develop analog synthesizer for Physics department at Skidmore College.

*Presenter/Performer*, ICIT Symposium, performing electronics with Drew Ceccato and Chris Golinsky.



## PROGRAMMING LANGUAGES

C/C++, Python, Java, Processing, PHP, HTML, CSS, TeX, Matlab/Octave, Mathematica, OpenSCAD, Shell/Unix, Max/MSP, Pure Data, SuperCollider, VST

## SOFTWARE

TinkerCAD, Blender, SketchUp, MeshLab, Pro Tools, Logic, Reason, Digital Performer, Ableton Live, Final Cut, Audacity/Nyquist, Adobe Creative Suite, Microsoft Office/Open Office, iLife, Linux/Windows/Mac OSes.

## FABRICATION

Fine woodworking with both hand tools and powered means, milling, soldering, PCB design and fabrication, laser cutting, vinyl and pen plotting, blueprinting/product layout and design.

## RESEARCH

Technological pedagogy, DSP programming, computer interface design, embedded computing with Raspberry Pi, musical instrument augmentation, embedded DSP programming, experimental computer-aided fabrication.

## ON THE SIDE

Free improvisation, soprano and alto saxophone, guitar, web/graphic design, absurdity, Scrabble, Dancehall, Bollywood, Japanese Batsu games, cooking, thinking really hard.

## PUBLICATION

"Acoustics-like dynamics in signal-based synthesis through parameter mapping,"  
by B Gaffney and T Smyth.  
*Proceedings of the Sound and Music Computing Conference*, August, 2013, Stockholm, Sweden