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## Exhibitions

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2017	Veggie Kingdom*	Digital Arts Expo
	6 * 9 = 42	Digital Arts Expo
	Digital Love	Digital Arts Expo
	WindBot*	Digital Arts Expo
	No Humans Allowed	WaveCave Gallery
2016	Antisocial	MTIID Masters Show
	Electrical Box	WaveCave Gallery
	Cathode Ray Tubes	WaveCave Gallery, Kadenze Inc.
	Rotary SNES	Kadenze Inc.
	SNES Trinity	Las Vegas Mini Makers Faire

Collaborations are denoted with a \*

	Never Forget	Intergrated Media Showcase
	Symbiotic SNES	Intergrated Media Showcase
	Yin~Yang*	Digital Arts Expo, MTIID Masters Show
	Computer Music	Digital Arts Expo
2015	Yin~Yang*	CalArts MFA MTIID Fall Show
	1990	CalArts Festival, Digital Arts Expo
	Digital Rain*	Digital Arts Expo
	Binaural*	Digital Arts Expo
	Cubist Pi*	Digital Arts Expo
2014	Toys	Digital Arts Expo
	Polygon Blood Arena 3D*	Digital Arts Expo

## Projects

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2017	Color Independent Slit-Scan Video Processing	<i>Processing program for color independent, temporal slit-scan processing</i>
2017	Battery Powered Mechatronics	<i>Small, 5V and 12V battery powered mechatronic personalities</i>
2016 – 2017	The Pantheon	<i>Comprehensive hardware and software system for creating mechatronic installations and instruments</i>
2015 – 2016	Modular SNES	<i>Arduino controlled circuit-bent SNES with patch bay interface</i>
2015 – 2016	Retrono	<i>A/V synth built from repurposed NES hardware emulators</i>
2015	Symbiotic SNES	<i>Arduino powered interface which allows for novel, new multiplayer modes for SNES games</i>
2015	Discovery Synth*	<i>Raspberry Pi powered experimental digital interface and synthesizer</i>
2015	Pi Speaker*	<i>Wireless Raspberry Pi powered speaker and synthesizer</i>
2014 - 2015	SnapperBots	<i>System for music performance using electromagnetic relay switches</i>
2015	Rotary SNES	<i>Circuit-bent SNES with two rotary switches for controlling bend states</i>
2015	Return to Mothership*	<i>Large game space where players use different colors of light to defend their spaceship from asteroids.</i>
2015	MyStomp	<i>Raspberry Pi and Arduino powered digital stomp box</i>
2014	Circuit Bent Genesis	<i>Circuit Bent SEGA Genesis with a breadboard interface for controlling bends</i>
2014	Voltage Slammer	<i>Circuit bending probe and interface for controlling up to sixteen circuit bent devices with one interface.</i>
2013	Chronosome*	

Collaborations are denoted with a \*

2013 *Chronome RGB grid controller with ultrasonic rangefinders and 10-DOF.*  
**Modular Stompboxes**  
*Analog effect pedals with multiple component combinations which can be switched out in real-time using rotary switches.*

## Performances

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2016 Human-Robot Ensemble - CalArts Machine Lab  
*Hedonism Bot, ChuckK, heatsink, mechatronic instruments*

2015 *CalArts AV Ensemble - CalArts ROD Concert Hall*  
*Korg Nanokontrol, PureData, composer*

2015 *Human-Robot Ensemble - CalArts Machine Lab*  
*SnapperBots, feedback, circuit boards, co-composer*

2014 *Kekack Ensemble - Wild Beast Concert Hall*  
*Monkey Chanter*

2013 *Laney College Jazz Ensemble - Laney College Concert Hall*  
*Electric Bass*

2013 *CalArts Javanese Gamelan - CalArts Gamelan Room*  
*Saron*

2013 *Threes Company - CalArts ROD Concert Hall*  
*ChuckK, co-composer*

2009 - 2013 *The Machetes - various SF Bay Area venues, Surf/Folk/Rock*  
*Electric Bass, composition*

2007 - 2011 *The Molestations - various SF Bay Area venues, Punk/Blues/Rock*  
*Electric Bass, composition*

## Curation

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2016 Digital Arts Expo  
*Curator for the ROD Lobby*

2015 Digital Arts Expo  
*Co-curator for Main Gallery*

## Recording

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2013 - present BiTDEPH  
*Experimental electronic music.*

2013 - 2015 Various  
*Employed by CalArts concert production for live sound reinforcement, live recording and webcam operation.*

## Bibliography

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2017 Electromagnetic Translucence: artistic approaches to interface design for installations, interfaces, and mechatronic performance  
*CalArts MFA written thesis.*

2015 – 2017 <http://digitalartsexpo.calarts.edu/>  
*Features installations presented at the 2014-2017 Digital Arts Expos*

2015 – 2016 <http://mtiid.calarts.edu/>  
*Computer Music, Digital Rain*

Collaborations are denoted with a \*

- 2015 - 2017 <http://wavecave.calarts.edu/>  
*Features installations Cathode Ray Tubes, Electrical Box and No Humans Allowed.*
- 2015 [oomlout.co.uk](http://oomlout.co.uk)  
*Features the Arduino SNES project.*

## Employment

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- 2016 - present California Institute of the Arts  
*Graduate assistant for Interface Design and Composition for Robots.*
- 2017 Walt Disney Imagineering  
*Participated in CalArts Educational Initiative. Worked in group of three with senior imaginer mentor to develop and present blue-sky project to Disney executives.*
- 2015 - 2017 Junior Research Engineer at Kadenze Inc.  
*Develop internal data visualization tools, create programs to algorithmically grade students.*
- 2016 - 2017 California Institute of the Arts  
*Graduate assistant for the Electronics Lab, Machine Lab and Masters Room.*
- 2014 - 2017 California Institute of the Arts  
*Technical Assistant for Concert Production, Digital Arts, and the Music Technology departments.*
- 2016 On Track Themes  
*Independent Contractor, helped build public installations.*
- 2015 Light Riders Production  
*Independent Contractor, helped build the LIGHTGRID project.*
- 2015 Radiance Lightworks  
*Independent Contractor, helped build a LED Curtain.*

## Education

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- 2017 CalArts - MFA in MTIID: Music Technology, Interaction, Intelligence & Design  
*installation art, programming, engineering, spacial semiotics, human-circuit interaction, data visualization, teaching, 3.99 equivalent GPA over 71 units*
- 2017 Walt Disney Imagineering Educational Initiative  
*Worked closely with Imagineer mentor and 15 other students over five weeks to craft project proposals which were presented to executive leadership at WDI.*
- 2015 CalArts - BFA in MTIID, Minor in Digital Arts  
*programming, design, music performance, engineering, 3.81 equivalent GPA over 78 units*
- 2014 UC Berkeley Extension  
*programming, electrical engineering*
- 2011 - 2013 Laney College, Oakland Ca, AA in Music  
*performance, composition, music theory, music history, 4.0 GPA*
- 2012 Berkeley City College, Berkeley Ca  
*English, digital arts, 4.0 GPA*

## Teaching

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- 2017 Guest Lecturer for Interface Design 2 @ Calarts (two weeks)

	PCB design for milling with EAGLE CAD and the OtherMill.
2016	Guest Lecturer for Composition for Robots (four weeks) <i>How to interface with and compose for mechatronic instruments</i>
2016	Guest Lecturer for Interface Design at CalArts (two weeks) <i>How to design PCB's in EAGLE CAD</i>
2014 - 2016	Hardware Hacking Club at CalArts <i>Hardware hacking, electronics, microcontrollers</i>
2014	Circuit Bending Club at CalArts <i>Circuit bending, basic electronics, Arduinos</i>

## Grants & Scholarships

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2016	CalArts Scholarship (\$8000)
2016	Curators Grant (\$150)
2016	Travel Grant (\$200)
2015	CalArts Scholarship (\$8000)
2015	CalArts Club Grant, Hardware Hacking Club (\$600)
2014	Cal Grant (\$10,700)
2014	CalArts Scholarship (\$8000)
2014	Metier Grant (\$200)
2014	CalArts Club Grant, Circuit Bending Club, (\$300)
2014	Métier Grant (\$300)
2013	CalArts Scholarship (\$8000)