

## Summary

*Musician, composer, and computer scientist with roots in popular music and a passion for discovering interesting ways to combine music and technology.*

My research interests include music technology, computing education, and accessible user interfaces.

I have studied composition with Michael Theodore,

Daniel Kellog, Carter Pann, and John Drumheller, computer music with Miller Puckette, and my music has been performed by Alarm Will Sound, the Video Game Orchestra, The Boulder Laptop Orchestra, and musicians from the CU College of Music.

I am pursuing an MS degree in Computer Science under the guidance of Professor Shaun Kane.

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## Education

University of Colorado Boulder

**BS/MS in Computer Science**

Current GPA: 3.939

**BM in Music Composition**

*Summa Cum Laude*

BOULDER, COLORADO

2011 – present

2011 – 2015

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## Work/Research Experience

CU Science Discovery

**Instructor**

I developed and co-taught a three-week high school academy on physical computing that included hands-on workshops with Arduino and various sensors and actuators.

BOULDER, COLORADO

June '16 – July '16

Superhuman Computing Lab

**Student Researcher**

Research group led by Professor Shaun Kane which focuses on the research areas of accessibility, mobile and wearable computing, and creative tools and everyday making.

BOULDER, COLORADO

May '15 – present

Nonvisual Interactive Physics Simulations

**Student Researcher**

Cross-disciplinary team consisting of students and faculty from the departments of Computer Science, Music, and Physics. We aim to uncover means of interaction that will allow simulations created in CU's PhET project to be accessible to blind learners.

BOULDER, COLORADO

Aug '14 – Aug '15

Guitar Multi-Effects Processor

**Student Researcher**

I received grants from the Boettcher Foundation and CU Boulder to pursue an independent research project under the mentorship of Professor Theodore. I developed a program with Max MSP containing standard and experimental guitar effects, a music visualizer, and support for a hardware foot pedal. I reported my progress on a UROP Blog and presented at the 2015 SUEP Research Conference.

BOULDER, COLORADO

May '14 – Aug '14

8z Real Estate

**Mobile App Developer Intern**

I was hired to work independently and develop a mobile app for iOS/Android. The app enables 8z Realtors to check in to property listings by submitting ratings, comments, and a photo. Each check-in is tagged with its location and posted to the company's WordPress blog Pulse.8z.com via a server-side Node script. I contributed to a four person tech team by writing QUnit tests, running QA for other projects, and participating in daily standup and weekly code review. The app is available on Google Play and the App Store, called 8z Checkin.

BOULDER, COLORADO

May '13 – Aug '13

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## Activities

Radio 1190

**Specialty Show DJ**

Weekly music discussion/analysis show *The Intentional Listener* features guests each week and finds connections between songs of all genres.

BOULDER, COLORADO

January '16 – present

Musical Performances	Boulder, Colorado
<b>Musician/Composer</b>	Aug '11 – present
I have performed in over forty concerts during my college career in numerous ensembles including the Boulder Laptop Orchestra (BLOrk) the Boulder Image and Sound Network (BISO-N), the Solid Noise Robotic Instrument Ensemble, the Colorado New Music Ensemble, and the CU Balinese Gamelan.	
Engineering Excellence Fund	Boulder, Colorado
<b>Chair/Public Relations Officer/Board Member</b>	Oct '12 – May '15
Student selected committee made up of nine undergrad and grad students. Members read and evaluate proposals from engineering students and faculty and allocate over one million dollars each year.	
Communikey Festival	Boulder, Colorado
<b>Student Artist</b>	Apr '14
I received a grant from the Environmental Design Center alongside three other student teams to develop an art installation for the the 2014 Communikey Festival. My project the <a href="#">Immersion Instrument</a> was on display for two days and enabled visitors to interact with a generative, ambient music synthesizer.	
Engineering Honors Program (EHP)	Boulder, Colorado
<b>Mentor/Recitation Leader/Engineering Honors Student</b>	May '11 – present
I was selected as one of fifty eight to be a part of a community that is committed to going beyond the base engineering curriculum. I organized all recitations for the required EHP course, and I received a scholarship to move back into the residence hall and live on a first-year student floor.	
Rose Foundation	Denver, Colorado
<b>Volunteer/Youth Foundation Board Member</b>	Oct '08 – Present
I served in the Rose Youth Foundation and later as an adviser and member of the selection committee. I am on the committee for the 2016 <a href="#">Innovate for Good Initiative</a> which will award \$250,000 to new, creative projects impacting the greater Denver area, and I reviewed proposals during the 2015 initiative.	
Casey Middle School	Boulder, Colorado
<b>Volunteer</b>	Oct '11 – May '13
I volunteered in the first two periods of an 8th grade English class once every week. Daily tasks included tutoring a diverse student body, grading homework, and classroom preparation.	

## Scholarships, Honors, and Awards

Boettcher Foundation	Denver, Colorado
<b>Boettcher Scholar</b>	May '11 – May '16
Full scholarship to any Colorado institution awarded to 40 students out of over 1300 applicants.	
College of Music Awards	Boulder, Colorado
<b>Awardee</b>	May '15
Undergraduate Composition Award for <i>Rain In Raissa</i> (performed by Alarm Will Sound). Choral Composition Award for <i>Gone, Gone, Again</i> (to be performed by University Singers).	
College of Music Scholarships	Boulder, Colorado
<b>Recipient</b>	Aug '12 – May '15
Richard Toensing Scholarship and James M. Grossi Scholarship.	
UROP Individual Grant	Boulder, Colorado
<b>Awardee</b>	May '14 – Aug '14
Undergraduate Research Opportunities Program funds for independent, creative research.	
Boettcher Educational Enrichment Grant	Boulder, Colorado
<b>Awardee</b>	May '14 – Aug '14
Grant reserved for Boettcher scholars to go above and beyond regular coursework.	
Center for Asian Studies Scholarship	Xi'an, China
<b>Recipient</b>	May '14
Scholarship awarded to twelve students to study abroad in Xi'an, China in a Global Seminar.	

## Skills

**Technical Experience:** C, C++, Python, Arduino, PD, Max MSP, SuperCollider, Processing. Web development experience with Javascript, jQuery, HTML 5, CSS, Backbone. Mobile development with PhoneGap.

**Compositions:** *Run (String Orchestra, 2010)*, *Character Wandering (Two Marimbas, Cello, Piano, 2011)*, *Me and My Shadow (Solo Acoustic Guitar, 2012)*, *Sorrows and Joys of Summer (String Quartet, 2012)*, *Crossroads (Laptop Orchestra, 2012)*, *Enter a Cloud (Solo Electric Guitar, 2013)*, *Gone, Gone, Again (SATB Choir, 2013)*, *For the Loneliness You Foster, (Solo Flute, 2013)*, *Mosh (Saxophone Quartet, 2014)*, *Rain in Raissa (Chamber Orchestra, 2014)*, *One Half of a Secret Handshake (Guitar and Electronics, 2015)*