

# LEYA BREANNA BALTAxE-ADMONY



Engineer - Musician - Human Centered Design Researcher

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## Objective:

I am a hard-working researcher who has demonstrated a diverse body of knowledge in both academia and industry. I hope to complete an industry-focused PhD. I am currently searching for industry internships in research-oriented roles.

## EDUCATION

🎓 Ph.D in Computational Media, Human Computer Interaction  
University of California Santa Cruz

📅 Fall 2018 – Present

🎓 B.S. in Computer Engineering, Robotics and Control  
University of California Santa Cruz

📅 Fall 2014 – Spring 2018

## RESEARCH

### Noteworthy Projects:

SpokeIt: Developing algorithms for speech error recognition

📅 Ongoing

SpokeIt is a speech therapy game which caters to children with cleft palate. I am currently working to develop machine learning algorithms to identify hyper-nasality and high-pressure errors in children's voice interactions. Model development is done using audio files from real therapy sessions provided by our collaboration with SmileTrain.

Study Girl: Collecting data on an emerging workstyle

📅 Ongoing

This project explores the space of livestream music/study channels.

Data is collected from multiple sources, including the streams chat data, users in person, and conducting experimental user studies. To scrape chat data, I developed cloud infrastructure to collect and store large volumes of data using various Google Cloud APIs and Amazon Web Services infrastructure. With a team of two other researchers, I designed and conducted an experimental study and semi-structure interview protocol.

Crux: creating a soft exosuit for musculoskeletal rehabilitation

📅 2016-2017

Crux is a lightweight, cable-driven, robotic exosuit for upper-extremity rehabilitation. My role in this project encompassed mechatronic design and user evaluation of various prototypes once they were built. The suit was designed and tested alongside practitioners and individuals from the Cabrillo Stroke Center and Hope Services, Santa Cruz.

### Publications:

1. **Leya Breanna Baltaxe-Admony**, Lee Taber, and Kevin Weatherwax. A livestream work companion. *interactions*, 26
2. Hansen Brian, **Leya Breanna Baltaxe-Admony**, Sri Kurniawan, and Angus Forbes. Exploring sonic parameter mapping for network data structures. In *International Conference on Auditory Display 2019*. Georgia Institute of Technology, 2019
3. **Leya Breanna Baltaxe-Admony**, Tom Hope, Kentaro Watanabe, Mircea Teodorescu, Sri Kurniawan, and Takuichi Nishimura. Exploring the creation of useful interfaces for music therapists. In *Audio Mostly 2018*. Association for Computing Machinery, 2018
4. Steven Lessard, Pattawong Pansodtee, Ash Robbins, **Leya Breanna Baltaxe-Admony**, James M Trombadore, Mircea Teodorescu, Adrian Agogino, and Sri Kurniawan. Crux: A compliant robotic upper-extremity exosuit for lightweight, portable, multi-joint muscular augmentation. In *Rehabilitation Robotics (ICORR), 2017 International Conference on*, pages 1633–1638. IEEE, 2017
5. **Leya Breanna Baltaxe-Admony**, Ash S Robbins, Erik A Jung, Steven Lessard, Mircea Teodorescu, Vytas SunSpiral, and Adrian Agogino. Simulating the human shoulder through active tensegrity structures. In *ASME 2016 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*, pages V006T09A027–V006T09A027. American Society of Mechanical Engineers, 2016

6. Steven Lessard, Dennis Castro, William Asper, Shaurya Deep Chopra, **Leya Breanna Baltaxe-Admony**, Mircea Teodorescu, Vytas SunSpiral, and Adrian Agogino. A bio-inspired tensegrity manipulator with multi-dof, structurally compliant joints. *arXiv preprint arXiv:1604.08667*, 2016

## WORK EXPERIENCE

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Graduate Student Researcher

**Assistive Sociotechnical Solutions for Individuals with Special needs using Technology Lab (ASSIST)**

Participatory design of audio systems to help individuals interface with the world and technologies around them.

📅 Fall 2018 - Present

📍 Santa Cruz, CA

Computational Media Graduate Community Manager

**Baskin School of Engineering, University of California Santa Cruz**

Organizing graduate community events, department programs, and workshops to strengthen and educate a community of engineers, artists, social scientists and more.

📅 Fall 2018-Present

📍 Santa Cruz, CA

Voice Assistant Software Engineering Intern

**Plantronics**

Design and implementation of voice user interfaces for consumer and enterprise applications using Google Cloud Platform and Amazon Web Services.

📅 Summer 2018

📍 Santa Cruz, CA

Undergraduate Researcher

**Mircea Teodorescu Lab & ASSIST Lab**

Bio-inspired soft robotics design geared towards musculoskeletal rehabilitation. Including hardware design, mechanical design, and user studies.

📅 Spring 2015 - Spring 2018

📍 Santa Cruz, CA

Visiting Technologist

**National Institute of Advanced Industrial Science & Tokyo Institute of Technology**

Embedded System Design for Individuals with Special Needs

📅 Summer 2017

📍 Tokyo, Japan

Test Engineer Intern

**NASA Ames Research Center**

Tested new mechanical structures. This involved rapid prototyping, and automating existing mechanical testing.

📅 Summer 2016

📍 Mountain View, CA

Engineering Intern

**Bearaxe Engineering**

Preliminary design and prototype of an electric motorcycle. I was required to source parts and design from scratch both mechanical parts and electrical systems. This position also required me to revamp existing motorcycle's electrical systems.

📅 Summer 2015

📍 Los Angeles, CA

## TEACHING EXPERIENCE

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Research Mentor

**Science Internship Program**

Closely collaborated with two high school interns on software development for various research projects. This included teaching basic human research practices, machine learning and web development.

📅 Summer 2019

Teaching Assistant

### Algorithmic Music for Games

Led instruction of 70+ students in 1/3 of class discussion. Graded and assisted students in programmatically synthesizing various audio, and incorporating it into existing game frameworks.

📅 Spring 2019

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Engineering Laboratory Instructor

### Baskin School of Engineering

Courses:

\* Assembly and Systems

\* Discrete Mathematics

\* Data Structures and Algorithms

📅 Spring 2015 - Winter 2018

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Girls Coding Instructor

### Plantronics

Teaching middle school girls in Santa Cruz County to code using Scratch. This was an event hosted by Plantronics which I helped to organize and facilitate.

📅 Summer 2018

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## HONORS & COMMENDATIONS

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- \* SWE Graduate Women Vice Chair
- \* UCSC Mechatronics Competition Winner
- \* Grace Hopper Celebration 2018 Scholar
- \* Women in Engineering, International Leadership Conference Scholarship
- \* Merit Scholarship for Academic Excellence
- \* Future Generation of Jazz Scholarship
- \* UCSC Honor Program
- \* Certificate of Recognition for Achievement in Undergraduate Research
- \* UCSC IEEE Branch President
- \* Dean's List

## SKILLS

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As a whole, my work centers around various human centered design practices. My recent work involves data science and machine learning. I also have a strong historical background in mechatronic systems design.

**Design:** Rapid Prototyping User Testing 3D Modeling Data Analysis Interview and Survey Design  
Participatory Design Voice User Interface Design Systems Design

**Programming:** Python C/C++ JavaScript Keras / Tensorflow Matlab Unix

## HOBBIES

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Trombone Climbing Surfing Backpacking Mountain Biking Cooking Board Games