



Annie Kelly

Creative Technologist / Design Researcher

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EDUCATION

University of Colorado Boulder

M.S. Creative Technologies and Design

12/2019

B.S. Computer Science

05/2016

EXPERIENCE

Design Researcher / Laboratory for Playful Computation '15 - now

Developing creative technologies and curricula to design and evaluate STEAM learning experiences and for both adolescent and adult populations.

| **DoggyVision 2020** Augmented reality experience of dog vision

| **BlockyTalky 2015** Customizable, expressive computer-music toolkit

Instructor / University of Colorado Boulder

'20 - now

Teaching a Digital Arts course I created covering graphic and web design, physical computing, and fabrication.

Research Intern / Microsoft

6/18-8/18

Worked with a team of engineers and education researchers to develop a beginner-friendly programming toolkit for augmented reality and music.

| **Arcadia 2018** AR toolkit for making the world your instrument

Freelancer / Self-employed

'12 - now

Completed commissioned projects spanning interactive art and museum installations, mixed reality, web design, logo design, and other artwork.

| **The Cell 2019** Interactive room-sized installation of DNA

| **Heart Flush 2019** Commissioned technology for performance

| **Universal Mind Control 2018** Brainwave planetarium installation

| **Audiovisual Playground 2018** Interactive VR music experience

| **The Show 2018** Software for interactive LED dance costumes

| **Metamorphosis 2018** Embodied, interactive museum exhibit

SKILLS

Graphic Design

Adobe Photoshop, Illustrator, InDesign

Web Design

HTML/CSS, JavaScript, Node, React, p5, Dreamweaver

Video / Animation

After Effects, Premiere, Processing, AR/VR, hand drawn

Programming

Python, C++, C#, JavaScript, Java, C, Bash, Unity, Raspberry Pi, Arduino, IoT, machine learning

Sound Design

Logic, Max/MSP, GarageBand, Supercollider

Fabrication

Laser cutting, 3D modeling, prototyping, electronics

Research

Quantitative/qualitative methods, published in several journals and conferences

PUBLICATIONS

Making changes: Counteracting Latina Young Women's Negative STEM Experiences through Culturally Responsive Physical Computing

Liam Fischback, Kristin Searle, R. Benjamin Shapiro, Annie Kelly, Colby Tofel-Grehl

In Proceedings of the 2020 International Conference of the Learning Sciences

"Our dog probably thinks Christmas is really boring": Re-mediating science education for feminist-oriented inquiry

Annie Kelly, Christine Chang, Christian Hill, Mary West, Mary Yoder, Joseph Polman, Shaun Kane, Michael Eisenberg, R. Benjamin Shapiro

In Proceedings of the 2020 International Conference of the Learning Sciences

Tangible and Playful Connected Learning

Sherry Hsi, Annie Kelly, Lila Finch, R. Benjamin Shapiro, Colin Dixon, Mike Petrich, & Karen Wilkinson

A workshop facilitated at the 2018 Connected Learning Summit

ARcadia: A Rapid Prototyping Platform for Real-time Tangible Interfaces

Annie Kelly, R. Benjamin Shapiro, Peli de Halleux, & Thomas Ball

In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems

BlockyTalky: New programmable tools to enable students' learning of networks

Annie Kelly, Lila Finch, Monica Bolles, & R. Benjamin Shapiro

In Proceedings of the 2018 International Journal of Child-Computer Interaction

Universal Mind Control

Annie Kelly & Monica Bolles

Presented at the 2018 IMERSA Summit in Columbus, OH

BlockyTalky: A Prototyping Toolkit for Digital Musical Interfaces

Annie Kelly, Monica Bolles, & R. Benjamin Shapiro

A workshop facilitated at the 2017 International Conference on New Interfaces for Musical Expression

Becoming Butterflies: Interactive Embodiment of the Butterfly Lifecycle

Annie Kelly, Matthew Whitlock, Stephen Volda, et al.

Poster presented at the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing

BlockyTalky: Tangible Distributed Computer Music for Youth

R. Benjamin Shapiro, Annie Kelly, Matthew Ahrens, et al

Selected for the 2017 Computer Music Journal

Audiovisual Playground: A Music Sequencing Tool for 3D Virtual Worlds

Annie Kelly & Kristofer Klipfel

In Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems

BlockyTalky: A Physical and Distributed Computer Music Toolkit for Kids

R. Benjamin Shapiro, Annie Kelly, Matthew Ahrens, & Rebecca Fiebrink

In Proceedings of the 2016 International Conference on New Interfaces for Musical Expression

TEACHING

UNIVERSITY COURSES

Digital Media Art (LIBB 2500)

CU Boulder 2020

Course website: <http://libbydigitalmedia.art/>

ADULT EDUCATION

Physical Computing for Live Performance 2019

Worked with graduate students enrolled in an Advanced Composition course. Taught students to use the micro:bit to create their own performance technologies that map sensor input to output such as sound, lighting, and motion.

Stage Lighting Workshop for Novice Programmers 2019

Three hour workshop teaching musicians how to build physical interfaces that can be used in real-time to control professional stage lighting equipment.

Talking Trees Jam: Interactive Art Installations Embodying Environmental Change 2019

A weekend workshop where participants collaborated on interactive art installations that embody Colorado environmental data. Participants worked with real scientific data collected in Colorado forests and physical computing tools to bring their installations to life.

Creative++: A Creative Arts and Technology Jam 2017

A 2017 interdisciplinary design event for artists and engineers where participants worked in groups to build an interactive technology for creative expression.

YOUTH AND ADOLESCENT EDUCATION

Postcards from space @ Interplanetary 2019

STEAM booth at Santa Fe Institute's Interplanetary Festival. We guided visitors how to make paper circuits to light up an LED and use other art supplies to make "postcards from space."

Build your own Interactive Pet Toys and Caretaking Supplies 2018

Co-facilitated a multi-day workshop for high schooler students to design, engineer, and program interactive toys and objects for their pets.

Interactive Computer Music and Games for Middle Schoolers 2017

Co-designed two middle school curriculums around using a physical computing toolkit to create musical and/or game controllers that use real-time input from sensors.

AWARDS

\$10k grant from the Infosys Foundation

2019 ICER Travel Award

2015 Grace Hopper Scholar

INTERESTS

Playing bass in two Denver punk bands, painting, true crime