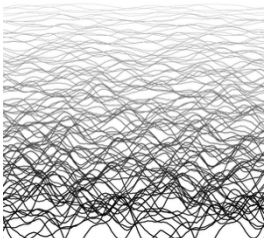

JIFFER HARRIMAN, Ph.D.

2888 Shoshone Trl • Lafayette, CO 80026 • 720.839.4916 • jifferh@gmail.com • www.jifferharriman.com

Creative technologist, educator, and researcher working at the intersection of interactive media, sound, and physical computing — building tools, instruments, and installations in the studio, and helping students explore interactivity in their own media practices.

EDUCATION

University of Colorado at Boulder, ATLAS Research Institute July 2016

Ph.D. Technology, Media and Society
Dissertation: The Development and Use of Scaffolded Design Tools for Interactive Music
- Hardware and software tools to enable building digital musical instruments and MIDI controlled musical robots
- Developed a framework for creating new tools to support musical and creative applications of interactive technology

Committee Chair: Michael Theodore

Stanford University, Center for Computer Research in Music and Acoustics (CCRMA) June 2012

M.A. Music, Science and Technology
- Digital Signal Processing (DSP) for Audio
- Software Design and Development for Computer Music
- New Interfaces for Musical Expression
- Multimedia Composition and Performance

Advisor: Julius Smith

Berklee College of Music June 2010

Certificate in Music Production and Technology
- Music production and composition
- Critical listening, sound design, music theory, and publishing

University of Colorado at Boulder May 2002

B.S. Electrical Engineering

TEACHING EXPERIENCE

Instructor unless otherwise noted; all courses at the University of Colorado Boulder unless marked (Denver).

Sound & Music Technology

CMDP 4110 Cultures of Digital Sound, new course development
CMDP 4870 Sound and Technology, new course development
CMDP 3860 Sonic Arts I
CMDP 3840 Sound Practices
CMDP 2870 Recording Design
MSRA 5520 Multimodal Interaction for Music (Denver), new course development
MUSC 4121/5121 Topics in Music Technology — Teaching Assistant, College of Music

Media Production & Immersive Media

CMDP 2500 Media Practices I
CMDP 3600 Media Practices II
CMDP 3750 Intro to Immersive Media
CMDP 3210 Immersive and Emergent Media Histories, new course development
CMDP 3880 Hearing Image, Seeing Sound
CMDP 4630 Intro to Computational Media, new course development
ATLS 3520 Digital Media 2

Physical Computing & IoT

ATLS 3519 Physical Computing
ATLS 3519 Physical Computing — Teaching Assistant
ATLS 5519 Connected Things, new course development
ATLS 5519 Studio: Space, new course development
ELEC 3520 IoT and Cyber-Physical Systems (Denver)
IWKS 4120 Internet of Things (Denver), new course development
IWKS 2100 Foundations of Human Centered Design, Innovation and Prototyping (Denver)

Design & Creative Technology

ATLS 5519 Creative Technology Seminar
MCEN 4228/5228 Aesthetics of Design

PROFESSIONAL EXPERIENCE

Lecturer, University of Colorado Boulder & Denver 2016 – Present

- Develop new courses; create and manage schedules and inventory for interactive media projects
- Advise and support students across a range of creative and technical projects in and outside of class

Founder, Creative Technologist — Modular Muse, Lafayette, CO 2017 – Present

- Independent studio designing and producing commissioned interactive sound art, custom musical instruments, and robotic/networked installations for museums, festivals, and public art programs
- Provides creative technology consulting and workshops for arts organizations and institutions

Research Assistant — Laboratory for Playful Computation, Boulder, CO Jan – Oct 2017

- Software development for web-based machine learning for creative applications

Research Associate — Sennheiser Research Lab, Palo Alto, CA Summer 2011

- Researched and developed new applications of DSP technology for audio
- Extended a microphone array processing application for theatrical stage and installed sound using RF tracking

Product Applications Engineer — Xilinx Inc., Longmont, CO 2003 – 2010

- Design consultation and field engineering for top-tier customers
- Worldwide support team lead for DSP design tools, DSP intellectual property, and memory interfaces

SELECTED PROJECTS

Installation and performing Artist Tulagi Fest 2026, Boulder, CO 2026

Galaga's Ghost, Musical Arcade and performing artist with three bands

Galaga's Ghost Musical Arcade, City of Boulder Experiments in Public Art, Boulder, CO 2026

Grant recipient, artist, developer — featuring the interactive installation "Galaga's Ghost"

Evergreen, Penelope Jane 2026

Folk/bluegrass album. Producer, recording and mix engineer

Convivial Machines, Museum of Boulder, Boulder, CO 2021

Interactive art show. Curator, developer, artist

Wanderers, Fiske Planetarium, Boulder, CO 2021

Geo-spatial location-based sound walk mobile application development. Collaboration with Teri Rueb

River Constellation, Water Works Park, Des Moines, IA 2019

Distributed sound technology design

Listening Together, KGNU, Museum of Boulder, Boulder, CO 2018

Exhibit designer, coordinator, developer

16 Step, Museum of Boulder, Boulder, CO 2018

Interactive sound art, permanent installation

Aesthetic Algorithms, Dairy Center for the Arts, Boulder, CO 2018

Robotic, networked interactive sound art. Also used for live performance with aerial dance company, Frequent Flyers.

Listening Lamp, Dairy Center for the Arts, Boulder, CO 2017

Sound-reactive light sculpture

Solarophone, Boulder Public Library, Boulder, CO 2016

Interactive sound art installation

SolidNoise, Margaret Guthman Musical Instrument Competition (Georgia Tech) & ATLAS Black Box Theater, Boulder, CO 2016

Installation and performance with robotic, networked music instruments

Whether Weather Exhibition, Communikey Festival, Boulder, CO 2014

My Physical Computing class developed interactive installations

Lumelon, Boulder Laptop Orchestra (BLOrk), Boulder, CO 2013

Multi-player electronic musical composition and instrument controlled by light and iPhone

AWARDS & HONORS

- City of Boulder Experiments in Public Art Grant Recipient (2026)
- Boulder Public Library Artist in Residence
- Calculated Mediations Exhibition
- Project eCSite GK-12 Fellow
- Beverley Sears Grant
- Stanford Institute for Creativity and the Arts (SiCa) Fellow

SERVICE

- Arts Track Co-Chair, ACM Conference on Human Factors in Computing (CHI)
- McNair Scholar Mentor
- Independent Study Advisor

OUTREACH & PUBLIC ENGAGEMENT

- Founder, Boulder Experiments in Art and Technology (B.E.A.T.) —
    - community meetup
    - workshops
    - events
- Museum of Boulder upcoming show Boulder Mixtape, (2027 exhibit) programs committee

Workshops

- Crafting Computational Percussion — New Interfaces for Musical Expression (NIME) / International Symposium on Electronic Arts (ISEA)
- SynthUX Hackathon: Musical Instrument Design — ATLAS and DCMP
- Build Your Own Digital Instrument Workshop — IdeaLab, Denver Public Library
- Musical Robotics — ATLAS and Boulder Public Library
- Make Interactive LED Sculptures — B.E.A.T. and the Museum of Boulder
- Crafting Music Controllers — Boulder Public Library STEAM Sessions
- Pure Data and Physical Computing for Interactive Music — Digital CUrrents
- Pure Data and Arduino – Controlling Sound — SparkFun Electronics
- Sound Hackers / Computer Science Integration — CU Science Discovery

ACADEMIC PUBLICATIONS

Harriman, J., Bethancourt, M., Narula, A., Theodore, M., Gross, M. “SolidNoise: Tools For Making Musical Robots.” Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems. ACM. 2016

Oh, H., Harriman, J., Narula, A., Gross, M. “Crafting Mechatronic Percussion with Everyday Materials.” Proceedings of the 10th International Conference on Tangible, Embedded, and Embodied Interaction. ACM. 2016

Goodman, K., Hertzberg, J., Ewen, H., Harriman, J. “Aesthetics of Design: A Case Study of a Course.” ASEE Annual Conference and Exposition, Conference Proceedings. 2015

Harriman, J. “Feedback Lap Steel: Exploring Tactile Transducers as String Actuators.” Proceedings of the 15th International Conference on New Interfaces for Musical Expression. 2015

Harriman, J. “Pd Poems and Teaching Tools.” Proceedings of the 15th International Conference on New Interfaces for Musical Expression. 2015

Harriman, J. “Start ’em Young: Digital Music Instruments for Education.” Proceedings of the 15th International Conference on New Interfaces for Musical Expression. 2015

Harriman, J., Theodore, M., Gross, M. “The Kitsch-Instrument: Hackable Robotic Music.” Proceedings of the Ninth International Conference on Tangible, Embedded, and Embodied Interaction. ACM. 2015

Harriman, J. “Modular-Mus: Towards an Interaction Design Toolkit for Music.” Proceedings of the 2014 Companion Publication on Designing Interactive Systems. ACM. 2014

Harriman, J., Theodore, M., Correll, N. “Endo/Exo: Making Art and Music with Distributed Computing.” Proceedings of the 14th International Conference on New Interfaces for Musical Expression. 2013

Harriman, J. “Sound Actuation and Interaction.” Proceedings of the 7th International Conference on Tangible, Embedded and Embodied Interaction. ACM. 2013

Harriman, J. “Sinkapater – An Untethered Beat Sequencer.” Proceedings of the 12th International Conference on New Interfaces for Musical Expression. 2012

Harriman, J., Casey, L., Melvin, L., Repper, M. “Quadrofeelia – A New Instrument for Sliding into Notes.” Proceedings of the 11th International Conference on New Interfaces for Musical Expression. 2011

SKILLS & INTERESTS

- Programming: C, C++, Flutter, Processing, P5.js, JavaScript, openFrameworks, Unity, C#
- Audio Programming: Pure Data (Pd), Max/MSP, ChucK, SuperCollider
- Audio Production: Pro Tools, Ableton Live, Reason, Logic
- Hardware: Circuit and PCB design, Raspberry Pi, Arduino, Teensy Audio
- Music: Guitar, banjo, dobro, pedal steel, bass (acoustic and electric), drums, vocals
- Recorded, mixed, and produced the folk/bluegrass album Evergreen by Penelope Jane, released 2026