

# Victor Shepardson

[victor-shepardson.github.io](http://victor-shepardson.github.io)

Artist /  
Developer /  
Researcher

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## Tools

### Audiovisual

Creative coding e.g. openFrameworks; music DSP & DAW inc. Max, Pd, Ardour, Ableton, Reaper, SuperCollider; video editing e.g. Adobe Ae/Pr; OpenGL

### Machine Learning, MIR & Data Science

Jupyter, Numpy, scikit-learn, TensorFlow, MATLAB

### General Computing

C++, Python, Javascript, Haskell; Amazon Web Services; Git; UNIX

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## Education

### Dartmouth College / M.A. Digital Musics

September 2014 - June 2016, Hanover, NH

Course work including computer music composition, animation, psychoacoustics, music information retrieval, data visualization, machine learning and deep neural networks.

### University of Virginia / B.A. Computer Science

August 2010 - May 2014, Charlottesville, VA

With highest distinction, Phi Beta Kappa. Undergraduate thesis on procedural texture synthesis in computer graphics. Course work including computer graphics, computer music, and programming languages.

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## Master's Thesis

### ABSTRACT/CONCRETE: An Audiovisual Synthesizer.

Professor Michael Casey, Associate Professor Jodie Mack, and Assistant Professor Ashley Fure

This thesis presents original work in generative audio-video. In it I describe the theory and implementation of a software synthesizer called ABSTRACT/CONCRETE, in which high resolution digital video feedback is coupled to an audio-rate multi-agent system and exposed to interactive control. I present *AVFB#3* and *CHERUB* as fixed works derived from interaction with the system.

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## Work Experience

### Freelance / Developer

2014 - Present

Developed a telephony system for live musical performance using Amazon web services and Twilio. The system was commissioned by Nathan Davis for the piece *a Sound uttered, a Silence Crossed* (2014). Also licensed generative video software to Gravity Current for *synesthesia.live*.

### Dartmouth College / Teaching Assistant

2015 - 2016, Hanover, NH

Graded assignments for Machine Learning with Lorenzo Torresani. Held office hours and provided Ableton Live support for Introduction to Sonic Arts with Ashley Fure. Set up and ran equipment for numerous musical performances.

### University of Virginia / Teaching Assistant

2012 - 2014, Charlottesville, VA

Graded and ran labs for Computer Architecture with John Stankovic. Graded for Discrete Math with Hamed Soroush. Graded and held office hours for Algorithms with Abhi Shelat and Computer Graphics with Luther Tychonievich.

### Arqball, LLC / Research Intern

Summer 2013, Charlottesville, VA

Researched algorithms for editing 360° product photography and developed a web application using Google's native client platform.

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## Volunteer Experience

### DataKind DC / Data Diver

December 2016

Participated in a weekend-long data science hackathon organized by DataKind and the Annie E. Casey Foundation. My team looked at how stability/mobility in foster care placements depends on the children and facilities involved, and how it affects eventual outcomes for those children. I investigated the predictive power of child & provider variables on desirability of outcome, contributing visualizations produced using Python.

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## Presentations & Performances

### Musical Metacreation Workshop at ICCC / Demonstration

June 2016, Paris, France

*Audiovisual Synthesis with ABSTRACT/CONCRETE*

### DAX 2016 / Installation

May 2016, Hood Museum, Dartmouth College

*Halting Problem* for Turing machines, TVs and speakers

### International Computer Music Conference / Composition

October 2015, Denton, TX

*Studies In Being Alive I-III* for fixed media.

**DAX 2015 / Installation**

May 2015, Dartmouth College

*Living Lattice* for digital video feedback.

**Contemporary Music Ensemble / Performer**

2014-2016, Dartmouth College

Performances in and around Dartmouth's contemporary music ensemble at venues including Spectrum NYC and Dartmouth's EYEWASH series and New Music Festival.

**Solo / Performer**

2013 - Present

Musical performance and video projection at venues including Out of the Blue Too Gallery in Cambridge, MA and Twisted Branch Tea Bazaar in Charlottesville, VA.