

JACOB PENN

COMPUTER PROGRAMMING
& SOUND DESIGN

EDUCATION

CALIFORNIA INSTITUTE OF THE ARTS

Valencia, California

BFA, Music Technology

Minor in Digital Arts

Graduated Spring 2016

TECHNICAL SKILLS

C++ / Object Oriented Programming

Cross Platform Plugin Development

JUCE

Arduino

Raspberry Pi

Interface / Interaction Design

Basic Electronics & Circuit Design

Git Version Control

openFrameworks

MIDI / OSC / Serial

Ableton Live

Synthesis and Music Softwares

Composition / Scoring / Song Writing

Western Classical & Post-Tonal Theories

HTML & CSS

Ruby on Rails



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EXPERIENCE

SOFTWARE DEVELOPER

OUTPUT, LOS ANGELES

JANUARY 2016 — PRESENT

Developed UI and implemented custom and library C++ code modules on an upcoming project from Output Inc., a rapidly growing music technology company. Collaborated directly with lead developer on app infrastructure. Created audio visualization code in JUCE for use in applications and branding.

AUDIO ENGINEER & SOUND DESIGNER

TANGENTLEMEN, LOS ANGELES

NOVEMBER 2014 — PRESENT

Recorded, edited, and created foley sounds and original audio content for Tangentlemen Studios, a video game company founded by creators of games such as Tomb Raider, Call of Duty 4: Modern Warfare, and Medal of Honor. Worked closely with the creative director on audio for an upcoming virtual reality project.

MUSIC PRODUCER

MUMUKSHU

2010 — PRESENT

As a solo musician, I've performed across North America and Europe, including Sonic Bloom Festival (Colorado), Burningman (Nevada), Freqs of Nature (Germany), Mo:dem Festival (Croatia), Ometeotle Festival (Mexico). Record, produce, mix and master work for other musicians.

TEACHING ASSISTANT

CALARTS, LOS ANGELES

AUGUST 2015 — DECEMBER 2015

Tutored students once a week on sound synthesis and computer programming.

PROJECTS

BFA SENIOR THESIS (2016)

Created a real time granular time stretching, pitch shifting, and rhythmic chopping audio plugin. Created a machine learning for synthesis parameters application. Wrote about the projects in the paper, MNML Granular and Unsupervised Synthesis Programming.

AUDIO ENCRYPTION INSTALLATION (2015)

Presented as an area with a screen, a speaker, and a microphone, the installation asked viewers to post a tweet using a certain hashtag. On a raspberry pi, a set of python and chuck scripts pulled the tweet offline and converted it into a stream of audio sine blips played through the speaker. A second pi listened through the microphone, and used FFT to convert the audio back to text for display to the viewer. This served as an interactive live stream of the event and was presented at the 2015 CalArts Digital Arts Expo.

MNML CONTROLLER (2015)

Designed, prototyped, and created a physical hardware interface using the Arduino platform. The interface served as the controller for an audio-visual installation at the 2015 CalArts Digital Arts Expo. Housed in a custom black acrylic case, the controller connected to a Processing based particle system, and a software synthesizer in order to sync sound and visuals.