

Education

Stanford University, Stanford CA

M.A in Music, Science, and Technology (in progress)

June 2013

- Software paradigms for audio/music applications, audio synthesis techniques, digital signal processing
- GPA: 3.79

Rensselaer Polytechnic Institute, Troy NY

B.S. in Computer Science, Minor in Electronic Arts

May 2011

- Data structures, algorithms, sorting, programming languages, computer architecture, models of computation, audio/media technology
- GPA: 3.79

Interests

- Audio synthesis
- Audio/music interactivity
- Web-based collaborative applications
- Audio/music consumer & professional applications
- Open source technologies
- Open standards

Recent Experience

Knack (github.com/colinsullivan/Knack)

Fall 2011

Algorithmic music framework • Chuck

- Developed framework during “Fundamentals of Computer Music” class, architected and implemented for final project
- Created various abstract classes and examples to assist computer musicians using the “Chuck” programming language for large projects

tulpasynth (github.com/colinsullivan/tulpasynth)

Fall 2011

Web-based collaborative instrument • C++ - Synthesis ToolKit - Websockets - Backbone.js - SVG • Objective-C - iOS - OpenGL - Node.js

- Initially web-based for “Software Paradigms for Music and Audio Applications” course, later developed for iOS for “Mobile Music” course
- Focused on interaction and sound, sounds synthesized from scratch in C++
- MVC architecture for web-based multiplayer graphics synchronization

Float, Troy NY

May - June 2011

Software Architect, Realtime Interaction Startup • Node.js - Websockets - SocketStream - Backbone.js - MongoDB

- Worked closely with founder and mentor to devise reasonable architecture for initial use case
- Focused on flexibility and real-time interaction requirements, while limiting complexity during initial stages of startup

Concert (github.com/Concert/Concert)

Jan 2010 – Present

Project lead, Web-based Audio Organizer • Python - Django - REST API - JavaScript - HTML5 - CSS3 - Backbone.js

- Worked with other students to architect, design and develop application in an agile manner
- Architected and implemented robust JavaScript framework (MVC)
- Architected and implemented REST API and backend functionality

Algorithmic Music Composition with the Fibonacci Sequence

Jan 2010 - Jan 2011

Independent Study with Prof. Curtis Bahn • Max/MSP - JavaScript - Logic

- Conducted research on the history of algorithmic music composition
- Developed a musical composition by algorithmically generating material based on the Fibonacci sequence and Golden Ratio
- Documented work in a publicly available research paper

IBM, Austin TX & San Jose CA

May - Aug 2010, July - Aug 2011

Extreme Blue Intern, UI Development & User Experience Developer, Mobile UI Development

- Developed HTML5 interface for visualizing large-scale geographic data using SVG and the RaphaelJS SVG library
- Architected and implemented JavaScript class structure for big-data visualizations, integrating heavily with Google Maps API
- Worked with agile team to develop solution, integrating with IBM software via REST interface and Dojo classes
- Presented project to numerous IBM executives including CEO Sam Palmisano
- Architected and developed a prototype mobile application using HTML5 standards and PhoneGap
- Researched stability of various HTML5 mobile features given IBM’s desired feature set
- Provided detailed presentation and report on technologies to guide IBM’s Information Management mobile strategy

Synthetic Cinema International, Rocky Hill CT

May 2007 - May 2010

Rotational Intern, Programmer, Video Editor, Audio Recording Engineer, Audio Editor, Systems Support

- Developed web-based audition management system
- Employed as an Audio Recording Engineer, Audio Editor, and Sound Designer for commercial clients and feature films
- Taught video production courses to Yale Magazine, divisions of the Journal Register Company, and at Mitchell College

Other

- Undergraduate teaching assistant for Computer Science I, Algorithms Fall 2008, Fall 2009, Fall 2010
- Rensselaer Center for Open Source Software, Mentor 2010
- Musician, Bass Guitar 10 years