Michael Tecce - Software Engineer

Contact Information & Links

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Personal Website Link

GitHub Profile

LinkedIn Profile

Summary

My name is Michael Tecce. I am a programmer specializing in software development, specifically web development. Outside of programming I am an avid lifelong musician. My primary instrument is guitar and have started, joined, and aided multiple music projects along the Eastern Seaboard. I am also a hobbyist audio electronics technician where I focus on the development of embedded systems, analog audio circuits, and the repair of such circuits.

Languages

JavaScript

- NodeJS - ReactJS - jQuery

-AR.js -Three.js -JSANOV

Python

-Numpy -MatPlotLib -Librosa

-Scikit-learn -Pandas

-Java -Arduino -C++

-HTML -CSS

Relevant Work/Experience

08/21-05/22 **Independent Academic Software Development: Augmented Reality Web Application**

Independent Project advised by Dr. Christopher Tralie at Ursinus College.

Built an augmented reality program to be used as a counterpoint music theory pedagogical tool. User navigates through printed camera tracking markers, traverses music staff.

- Responsibilities Included: Implementing program elements, debugging, testing, coordinating desired features with client (Dr. Rosa Abrahams).
- Accomplishments Included: Implementing an AR environment, real-time audio playback, global position tracking and formatting, recording user voice and modular musical note input (1st species counterpoint).

06/20-08/20 **Sonification Research Internship**

Research advised by Dr. Christopher Tralie during Summer Fellows 2020 at Ursinus College.

Explored manipulation of time series datasets and represented results through audio.

- Responsibilities/Accomplishments Included: Becoming proficient in Python and Numpy, studied pre-existing sonification techniques.
- Accomplishments Include: Implemented numerous sonification algorithms, bridged music theory concepts with sonification techniques.
- Found possible usage of sinusoids to teach derivatives in Calculus.

05/19-03/21 **Digital Guitar Channel Switching Pedal**

Designed, programmed and built a 'loop switcher' guitar pedal from scratch, powered by an Arduino Nano.

- Designed electrical circuit (interconnection of transistor switches, relays, and Arduino Nano).
- Created/Implemented/Debugged Arduino Program to fulfil functionality of audio channel switching seamlessly.
- Created PCB circuit layout, assembled circuit board, designed casing layout of components, assembled pedal.
- Used by multiple musicians in the Philadelphia area.

Education

08/19-05/22 **Ursinus College**, B.Sc. Computer Science

- *Major GPA: 3.57*
- *GPA: 3.33*
- *Deans List (Fall 2019, Spring 2020, Spring 2021)*
- *Area of Focus: Software Engineering & Algorithms*

08/17-05/19 **University of the Arts**, B.Sc. Music, Business, Entrepreneurship and Technology

- *GPA: 3.73*
- *Minor: Woodcraft Studies*
- *Area of Focus: Digital Audio Programming, Audio Electronics*

Relevant Coursework

Software Engineering

Object-Oriented Programming

Data Structures

Computer Networks

Digital Music Processing

Operating Systems