Sam Smith

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Education

The University Of Michigan

Expected Graduation: Dec 2022
GPA: **3.58**/4.00

B.F.A. Performing Arts Technology - Concentration in Engineering
Coursework: Acoustics and Psychoacoustics, Studio Recording and Production, Immersive Media Design.
Minor in Computer Science - College of Engineering
Coursework: Algorithms, Data Structures, Discrete Math, Theory of Computation, Computer Organization, Linear Algebra, Statistics.

Experience

Software Engineering Intern - Apple

June 2021 - Dec. 2021

- Contributed to an audio plug-in suite designed for creating spatial audio content.
- Contributed to audio algorithm in C++/JUCE such as beamforming, sound field rotation, and zoom.
- Prototyped audio algorithms in Matlab.
- Created a test suite for ensuring C++ audio algorithms conformed to results produced in matlab.

Immersive Media Assistant - The University of Michigan

Jan 2019 - Present

- Assisting Dr. Anıl Çamcı with research in Ambisonics and motion capture systems.
- Researching the accuracy of ambisonic systems in acoustically imperfect spaces.
- Designed a GUI for easy usage of ambisonic systems through the ICST Ambisonic library.
- Research published in **Fall 2021 AES Journal**: https://sdsmit.github.io/DavisAmbisonics_2021_AES.pdf

Projects

Please visit my website for more project information and demos: sdsmit.github.io.

Tweet Sonifier - EECS 183 Final Project - 1st place (out of 300)

Dec. 2018

- Awarded 1st place by representitives from **JPMorgan & Chase**.
- Created a program to express tweets in the form of audio: ultimately exploring a future of sonification in the age of data.
- Utilized Fast-Fourier Transforms and natural language processing to sonify text.

Sonic Surfer - PAT 451 Project

Mar. 2020

- Created a multimedia game which integrated spatial audio and unique tacticile human-computer interaction which showed the viability of non-visual game expereinces.
- Created a controller with force sensing resistors on a platform to detect where the player was leaning.
- Built using Max/MSP for digital synthesis, binaural audio processing, and data processing.

Audio/Visual Resampler - Music Makethon - 1st place (out of 3)

Nov. 2018

- Created a program to create new audio visual expereinces which showed a possibility of audio reactive visuals in a live performance setting without traditional video editting and animation processess.
- Built using C++ and JUCE for audio processing and Max/MSP for video processing.
- Featured in EECS department newsletter.

SimpleDelay - Independent Project

Aug. 2020

- Created an open source tape delay plug-in with simple controls built in C++/JUCE.
- Implemented a cirrcular buffer to handle delay signal and implemented a soft-clipping algorithm.

Skills

Great With: C++, JUCE, Audio Engineering, Max/MSP, Git.

Good With: PortAudio, Sound Design, Processing/P5.js, Java, Javascript, DSP.

Familiar With: Protools, HTML, CSS, Unity.

Leadership

Audio Engineering Society U-M Student Section - Chair

Jan. 2019 - June 2021

- Organized logistics of annual Mix/Remix competition including securing sponsorships from companies such as Ableton, Avid, and Shure.
- Applied for funding from the international AES organization and UofM student goverenment for a cable-building workshop, a networking event, and to attend the national conference. Funding totaled over $1000.
- Worked with UofM faculty to judge Mix/Remix and instruct a cable building workshop. Participation between the events totaling over 40 students.
- Previously held treasurer and vice-chair positions.