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April 6, 2022

CS Senior Project Progress Report 3

1. Project Goal

The goal of this project is to research the mathematics behind music and how it can be used to analyze music. The math will be focused on Fourier series and transforms and the computer science aspects will be python graphs and a program which uses the Fourier transform to analyze music in real time. The project will focus on reporting the research done with less emphasis on the computer algorithms or rigorous mathematical proofs. The paper will, however, contain some proofs and source code for theorems and algorithms used.

2. Progress Made

In the past few weeks since my last report I have worked almost entirely on my paper. I have added significant sections for an introduction, sound preliminaries, music theory preliminaries, math preliminaries, fourier series introduction, and some experiments and implementations. I have also done some work in making the python graphs more presentable.

3. Next Steps

In the next week I will finish my paper by adding sections for a conclusion, appendix for my code, extra information on synethsia, and a proof. I have been working with Dr. Antwi in order to determine what else should be added to the paper. This last week will be focused on finishing the paper. After these sections are added I will work on formatting the paper into a presentable format for research.