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Term: Summer 2019
5/30/19

Research on Vocal Disorders and Music

Project Overview

I will be working with the Opera of the Future group at the Media Lab, which is studying how music can improve the well-being of people. We will be studying how music and singing affect people with vocal disabilities such as stuttering. While there is currently no cure for stuttering, Opera of the Future has found that singing, as well as modifying the affected person's perception of their voice (for example, by playing back the person's voice to them in a different pitch), significantly improves the person's ability to speak without stuttering, and they are experimenting to find new techniques with even more promising results.

Personal Role & Responsibilities

During the summer, I will be assisting with the design of the study and helping in conducting the study. I will be given the opportunity to explore different facets of the experiments, from data analysis of the information collected to digital signal processing to working on the machine learning algorithms to detect stutters; I will be able to focus on what I enjoy the most and find most applicable to my personal skill goals. Overall, I will be learning many new skills and applying them to the various experiments that will be conducted over the summer in an effort to better understand how music and sound affect people who stutter.

Goals

I hope to use this summer as a time of exploration of different fields and interests to gain a better understanding of my own passions and what a future career could potentially look like for me because I am currently still in a very exploratory stage. This project will also help me develop valuable skills in areas that I already have an interest in, such as data analysis, which will allow me to be more prepared for finding jobs in those fields in the future. As someone who loves music and singing, I am excited to see how I can combine more technical skills with my hobbies in a field of study that I have never looked into before. In terms of the goals of this project itself, we are hoping to discover and test new techniques that will bring us closer to a cure for stuttering.

Personal Statement

This UROP will be an excellent way for me to explore and develop different interests – I plan on studying course 6-14 (Computer Science, Economics, and Data Science) and 15-2 (Business Analytics), and this project will be very conducive to acquiring the skills related to these two majors that I have always wanted to learn. I will be able to learn what it is like contributing to a long-term project with a team of people and applying my knowledge to solve new problems, which is something that I believe is very valuable for any career or class in the future.