Rob Kelly

Senior Design

Self-Assessment

For this project, I primarily focused on implementing the audio processing portion of the web application. In particular, I implemented the logic to compute lyrical accuracy and pitch accuracy (accounting for octaves). Additionally, I integrated the logic from my backend work into the web application and created the initial implementation for all of our parts to run synchronously. In terms of the skills that I identified previously (sound engineering, data analytics, AI principles, software engineering principles), I primarily applied software and sound engineering principles for my portion of the work, and this project allowed me to hone my skills in these aspects that will benefit me in the future when I work on bigger projects.

The big success that we had on this project was the fact that I was able to properly implement all of the audio processing work that we planned on implementing at the start. I was able to accurately detect pitches, lyrics, and octaves of performers, and I was also able to implement logic to extract just the vocals from an individual song for our lyrical comparisons. The biggest obstacle that I ran into was figuring out how to properly integrate the Spotify API to allow for us to implement more songs. For this project, we determined that it would be out of scope, but if we were to implement this in the future, I do believe that I have a good path forward for said implementation.