

Architecture and Design Document - Data Sources

1. Philharmonia Orchestra

- URL: https://www.philharmonia.co.uk/explore/sound_samples
- Philharmonia Orchestra provides an adequate amount of audio recordings that we can use as our main source of training and testing datasets.
- The audio files are in a lossy MPEG Audio Layer-3 format (MP3), which we will be converting into a lossless Waveform audio file format (WAV) in order to enhance the clarity and readability of the audio file for better analysis.
- There are a total of 57 instruments, each with an adequate amount of samples with varying pitches, lengths, dynamics, and articulation.
- For our approach, we are planning on only using a small fraction of the samples (2-3 instruments) as the process will become convoluted.

2. Convolutional Neural Network

- At the moment, our CNN model is composed of two layers of convolution.
- Our group is currently working on the possibility of five convolutional layers.