

Data Preprocessing

After collecting the WAV audio files for each genre, the next step was to prepare the data in a way that made it manageable for machine learning. Since each mixtape was over an hour long, we broke them down into shorter, evenly-sized clips—each lasting 15 seconds.

This approach helped:

- Make sure the model received consistent input sizes.
- Increase the number of training examples.
- Capture different musical patterns within a single genre.

A simple audio processing script was used to do this automatically for every genre. It created a folder for each one and then split the mixtape into smaller audio chunks saved as new files. This allowed the model to “listen” to each clip individually and learn the unique rhythms and textures of each genre.

