Washington State University

Machine Learning Project

Project Proposal

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1 Problem

Project name: Music Genre Classification

Music is the mix of vocal or instrumental sounds combined to produce a form or express emotion. In the modern era, people listen to all forms of music which nowadays have fusion of one or more forms of music.

People moving all around the world may find some indigenous music hard to grasp and categorize while getting to know the history and origin. It is hard to listen to something at a instant and categorize them, when we may know all genre or may have never heard of them.

2 Methodology

To develop a deep learning model that could automatically classify different musical genres from audio files. The classification is based on the audio files using their low-level features of frequency and time domain.

Dataset : GTZAN genre classification dataset with 10 classes (10 music genres) in .wav format.

Classification method: K-nearest neighbors Algorithm

Feature Extraction: Mel Frequency Cepstral Coefficients are being used for feature extraction.
They have been used in automatic speech and speech recognition studies. To generate these features, the following steps are being carried out:

1. The audio signals are divided into smaller frames.
2. Identifying different frequencies present in each frame.
3. Separating linguistic frequencies from the noise.
4. To discard the noise, taking cosine transform.

3 Final Product

A model by the extracted features could predict the genre of a new audio file when provided with.