Fusion of Log-Mel Spectrogram and GLCM Feature in Acoustic Scene Classification

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Acoustic scene classification (ASC) is an important problem of computational auditory scene analysis. The proposed feature is extracted from the fusion of the Log-Mel Spectrogram (LMS) and the Gray Level Co-occurrence Matrix (GLCM) for the acoustic scene classification. LMS of the input audio file is calculated and then GLCM feature is extracted from LMS to detect the changes of audio signal in time and frequency domain. Multi-class Support Vector Machine (SVM) trains this feature in order to categorize the type of environment for audio input files. The main contribution of this paper is to extract the effective feature from the combination of signal processing approach and image processing approach. The purpose of this feature is to reduce computational time for classification. This system uses Detection and Classification of Acoustic Scenes and Events (DCASE 2016) challenges to show the robustness of the proposed feature.