CLASSIFIERS ON VARIOUS FEATURES FOR AUTO MUSIC TRANSCRIPTION 2016

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ABSTRACT

The Objective of this work is to evaluate the accuracy of auto-transcription by extracting features from the audio music and apply different classifiers on it to get the note. We are aimed at transcription on certain types of music instruments, for example strings. Only the main instrument of the polyphonic music will be transcribed.

1. INTRODUCTION

The Dataset of this work will collected. The requirement of the dataset should contain certain types of instrument like string and it should come with the corresponding music scores which we can used as labels for training and testing. The collected dataset will be reconstructed to pieces which contain the same number of notes in order for easier evaluation.
Then acoustics features such MFCC, STFT, Auto-corr, etc. will be extracted from the audio music.
The extracted features will be used as the input to the classifiers for note transcription. Several different classifier will be involved in this stage in order to compare their performance in terms of accuracy. The features will be used individually as well as combatively. So we will have different combination of features and classifiers.
The accuracy test will perform on each combinations and a compare over them will be provided at the evaluation section.
Python will be the main programming language for this work. Marsyas will the library used for Acoustic features extraction while Scipy will be used for the data mining classifier.

1.1 Timeline

Dataset collection by
Features and Classifier selection based on papers by
Features extraction implementation by
Classifier implementation by
System integration for training by Run the test and get result by
Report should be update after every previous steps

1.2 Role of team member

Nora: Architecture design, team management, coding
Aasim:
Parul:

2. DATASET

The Dataset we used for this work is collected on line. And we will organize it in the structure as we need.

3. ACOUSTIC FEATURES FOR TRAINING

MFCC, STFT, Auto-corr, etc

4. CLASSIFIERS

SVM etc.

5. RESULT

Accuracy will be the matrix for the measurement.

6. CONCLUSION

Basic on the result we should be able to figure out which combination is best for auto music transcription objective.

7. REFERENCES