

Report

Period: Oct. 3-9, 2014

Task: Simulating and estimating multimodal emotion recognition using different multimodal emotion databases

Subtasks: SVM training and classification, Performing simple actions on NAO, Analyzing facial and vocal data

1 Task 1

SAVEE database consists of recordings from 4 male actors in 7 different emotions, 480 British English utterances in total. 14 features have been extracted from each utterance (.wav audio files) (67290 in total). The following eight features: Energy intensity (db), Pitch (Hz), Standard deviation (Hz), Jitter (local), Shimmer (local), Autocorrelation (Harmonicity of the voiced parts only), Noise-to-harmonics ratio (Harmonicity of the voiced parts only), Harmonics-to-noise ratio (Harmonicity of the voiced parts only) have been extracted using Praat software. The rest six features : Energy Entropy Block, Short Time Energy, Zero-crossing rate, Spectral RollOff, Spectral Centroid, Spectral Flux have been extracted using the feature_extraction function in Matlab software. From the SAVEE database I have used the data concerning only 'happiness' and 'sadness' emotions for 4 male speakers to do SVM binary classification. 80% of the data were used as a training set and 20% for test set.

2 Task 2

Using Choregraph program perform simple action on the NAO humanoid robot.

3 Task 3

Analysing the facial and vocal emotion recognition by AV clips recorded on the Kinect camera.

Tasks for the Next Week

1 Estimating the recognition rate and classification accuracy for the 2 emotion classes for audio modality.

2 Simulating the results of Multimodal Emotion Recognition of four and five categories by using ensemble of trees of binary SVM classifiers.