School of Computer Science and Engineering, VIT Chennai.

BCSE209L Machine Learning

**Lab-8 Support Vector Machine**

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Submit your python code (Jupyter notebook)

You are asked to design a classifier model for predicting the class of emotions in music using characteristics of the audio signal such as Mel Frequency Cepstral Coefficients (MFCCs), Tempo, Chromagram, Spectral and Harmonic features.

Use the pre-processed dataset music.csv. There are four classes of emotions in the dataset: happy, sad, angry, relax.

1. Use Linear Support vector machine (SVM) for classification (use scikit).
2. Print confusion matrix and report Accuracy, precision, F1 score and recall.
3. Apply any pre-processing techniques (normalization etc.) and report if results are improving.
4. Repeat the problem using non-linear SVM with different kernel functions. Report the results.