ECG Beats Classification Using Mixture of Features

1. **Preprocessing: Filtering & Segmentation**

To preprocessing stage involves the following two substages :

(i) normalize the amplitude of ECG signals to zero mean; this reduces the DC oﬀset and eliminates the amplitude variance fle to fle;

(ii) the bandpass filter (3–20 Hz) is used to contain most of QRS complex energy and least amount of high frequency noise and low-frequency baseline wander.

1. **Feature Extraction**

two different feature extraction methods are proposed for classification of ECG beats:

1. S-transform based features along with temporal features and
2. mixture of ST and WT based features along with temporal features
3. **Classification & Classifier**

The extracted feature set is independently classified using multilayer perceptron neural network (MLPNN)

1. **Accuracy**

achieved accuracy of 97.14% using twelve files from MIT-BIH database for ECG classification

 feed forward back propagation neural network and achieved the classification accuracy of 96.34%

1. **Two Leads or One Lead ? In case of two leads .. how classification of two leads is merged to have final decision ?**
2. **Classes**

normal beat (N), ventricular ectopic beat (V), supraventricular ectopic beat(S), fusion beat (F), and unknown beat (Q)