**Heart Rate Variability Classification  
using Support Vector Machine and  
Genetic Algorithm**

**“(35)10.0000@www.ncbi.nlm.nih.gov@PMC6280110”**

1. **Preprocessing: Filtering & Segmentation**

For power-line noise removal, a least means square (LMS) adaptive filter is deployed by setting the notch filter of the 60Hz band or the 60Hz-component as a reference signal

1. **Feature Extraction**

feature extraction using DWT , best features selection by GA (Genetic Algorithm)

1. **Classification & Classifier**

normal and abnormal HRV signals and automatically distinguished from  
each other using SVM

1. **Accuracy**

sensitivity, specificity and precision which resulted in 97.14%, 97.54% , 96.9% and 97.64%, respectively.

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 rhythms, atrial fibrillation and ventricular tachycardia