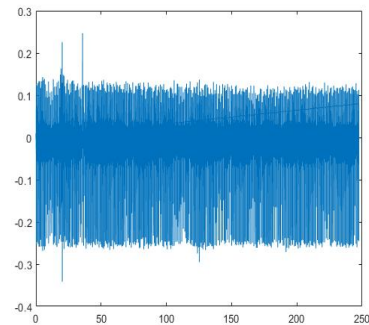
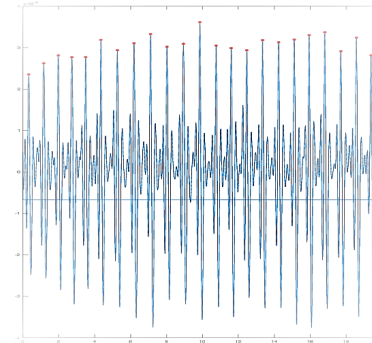


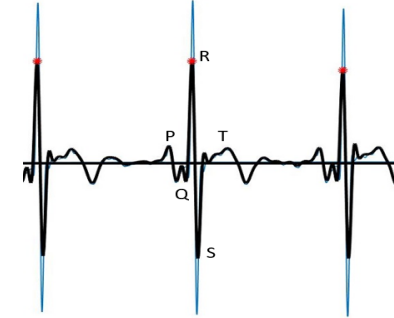
**EKG Data collection**



**Raw EKG signals**



**Signal Filtering and  
peaks detection**



**R peak detection**

$$\overline{RR} = \frac{1}{N-1} \sum_{t=1}^{N-1} |RR_{t+1} - RR_t|$$
$$HRV = \frac{1}{N-1} \sum_{t=1}^{N-1} (|RR_{t+1} - RR_t| - \overline{RR})^2$$

**Heart Rate Variability**

