

# Performance evaluation of FIR and IIR filtering of ECG signals

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**Abstract.** When a wearable ECG sensor transmits signals to a mobile device, the mobile applications needs to be very efficient and save the limited mobile phone resources. This motivates us to find an algorithm implementation that is not computationally intensive, but still very efficient in denoising the ECG signal. The use of a window-based design Finite Impulse Response (FIR) and Infinite Impulse Response (IIR) filters are analysed in this paper. Several filters have been designed and the computational efficiency have been analysed both theoretically and experimentally. The results show that the designed IIR outperforms the FIR filter achieving a better computational efficiency with a minimal distortion of the ECG signal.

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