

INTISARI

Tugas akhir ini bertujuan untuk menghilangkan derau pada sinyal Photoplethysmograph (PPG) yang direkam menggunakan ponsel cerdas pada ujung jari. Derau pada sinyal PPG diklasifikasikan menjadi *High-Frequency Noise* dan *Low-Frequency Noise (baseline wander)* yang dapat berasal dari kegiatan manusia dan organ tubuh serta lingkungan.

Rerata bergerak digunakan untuk menghilangkan derau pada sinyal PPG. Rerata bergerak pertama digunakan untuk menghilangkan *Low-Frequency Noise* atau *baseline wander* pada sinyal PPG. Rerata bergerak selanjutnya digunakan untuk menghilangkan *High-Frequency Noise* pada sinyal PPG. Dari hasil skripsi menunjukkan bahwa rerata bergerak dapat menghilangkan *High-Frequency Noise* serta *Low-Frequency Noise* pada sinyal PPG.

Kata kunci: PPG, Mobile, Baseline Wander, Preprocessing, Rerata Bergerak

ABSTRACT

The purpose of this study is to remove noise on Photoplethysmograph (PPG) signals that recorded using smartphone placed on fingertips. Noise on PPG signals can be classified into High-frequency Noise and Low-frequency Noise (baseline wander) noise which can come from environment, human activity and human organs.

Moving average are used to remove noise in PPG signals. The first moving average is used to remove the Low-frequency noise in the PPG signals. The second one is used to remove the High-frequency noise in the PPG signals. The results show that the double moving average can remove both High-frequency and Low-frequency noise.

Keywords: *PPG, Mobile, Baseline Wander, Preprocessing, Moving Average*