

ESTIMATING PHYSIOLOGICAL PARAMETERS

TECHNICAL FIELD

[0001] The present subject matter relates, in general, to photoplethysmography and, particularly but not exclusively, to estimating physiological parameters of a
5 subject based on photoplethysmography.

BACKGROUND

[0002] With the advancement in technology, (PPG) has been developed for measuring physiological parameters, such as heart rate of individuals. The PPG is a non-intrusive optical technique and involves use of light for measuring change in
10 blood volume of the individual. Based on the measurement, a PPG signal indicative of changes in blood volume may be obtained. The PPG signal may then be used for estimating the physiological parameters associated with the individual.

BRIEF DESCRIPTION OF DRAWINGS

[0003] The detailed description is described with reference to the accompanying
15 figures. In the figures, the left-most digit(s) of a reference number identifies the figure in which the reference number first appears. The same numbers are used throughout the drawings to reference like features and components.

[0004] Figure 1 illustrates a physiological parameter measurement device for determining physiological parameter associated with a subject, in accordance with an
20 implementation of the present subject matter; and

[0005] Figure 2 illustrates a method for determining physiological parameter associated with a subject, in accordance with an implementation of the present subject matter.

SUMMARY

25 [0005a] In one aspect, there is provided a physiological parameter measurement (PPM) device, the PPM device comprising:

a processor;

a video processing module coupled to the processor to,

divide each of a plurality of frames of a video into a plurality of blocks, wherein the video is of a body part of a subject whose physiological parameter is to be determined;

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select a block, from amongst the plurality of blocks, having highest peak signal to noise ratio (PSNR);

extract a photoplethysmogram (PPG) signal from the video based on a block identifier associated with the block; and

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a signal enhancement module coupled to the processor to,

enhance the PPG signal for determining a value of the physiological parameter associated with the subject.

[0005b] In one aspect, there is provided a method comprising:

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dividing, by a processor, each of a plurality of frames of a video into a plurality of blocks, wherein the video is of a body part of a subject whose physiological parameter is to be determined;

selecting a block, from amongst the plurality of blocks, having highest peak signal to noise ratio (PSNR);

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extracting a photoplethysmogram (PPG) signal from the video based on a block identifier associated with the block; and

enhancing the PPG signal for determining a value of the physiological parameter for the subject.

[0005c] In one aspect, there is provided a non-transitory computer-readable medium having embodied thereon a computer program for executing a method comprising:

dividing, by a processor, each of a plurality of frames of a video into a
5 plurality of blocks, wherein the video is of a body part of a subject whose physiological parameter is to be determined;

selecting a block, from amongst the plurality of blocks, having highest peak signal to noise ratio (PSNR);

extracting a photoplethysmogram (PPG) signal from the video based on a
10 block identifier associated with the block; and

enhancing the PPG signal for determining a value of the physiological parameter for the subject.