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Patent Search

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Abstract:

Our Invention is Sensor-Based System Implementation for a non-invasive method to estimate Atherosclerosis. Atherosclerosis is a major problem in the developing world. Atherosclerosis is the condition in which there is blockage of arteries by deposition of cholesterol in the lumen of blood vessels. This blockage will obstruct the flow of blood which is known as Ischemia. This Ischemia will lead to cardiac and other vascular diseases which lead to stroke, Myocardial Infarction, etc. Our invention focuses mainly on the detection of Atherosclerosis by using Photoplethysmography (PPG) signals. Photoplethysmography (PPG) is a non-invasive technique of measuring pulse signals that are caused due to the change in volume of the blood in the human body which will result from the circulatory system. PPG acquisition module is developed to acquire the PPG signals. The module consists of a sensor circuit and IR LED to acquire the pulse signal from the fingertip. The obtained raw PPG signal consists of noise signals and low-frequency signals which are amplified and filtered to obtain PPG signal by using IC. Thus, the noise signal is subjected to an amplification and filtering process to obtain the PPG signal. The acquired PPG signal is Connected to the computational system and it is processed in the cloud with IoT.

Complete Specification

Claims:1. A computer-implemented method comprising: Atherosclerosis is a major problem in the developing world. Atherosclerosis is the condition in which there is blockage of arteries by deposition of cholesterol in the lumen of blood vessels. This blockage will obstruct the flow of blood which is known as Ischemia. This Ischemia will lead to cardiac and other vascular diseases which lead to stroke, Myocardial Infarction, etc.

Our invention focuses mainly on the detection of Atherosclerosis by using Photoplethysmography (PPG) signals. Photoplethysmography (PPG) is a non-invasive technique of measuring pulse signals that are caused due to the change in volume of the blood in the human body which will result from the circulatory system. PPG acquisition module is developed to acquire the PPG signals. The module consists of a sensor circuit and IR LED to acquire the pulse signal from the fingertip. The obtained raw PPG signal consists of noise signals and low-frequency signals which are amplified and filtered to obtain PPG signal. Thus, the noise signal is subjected to an amplification and filtering process to obtain the PPG signal. The acquired PPG signal is Connected to the computational system, and it is processed in the cloud with IoT.

2. According to claim1# wherein, the invention is to the system helps to develop the PPG acquisition system to acquire the PPG signals from the subjects.

3. According to claim1#wherein, the invention is to acquire PPG signal is processed in by a system comprising, computational system and storage device storing instructions that are operable with a software algorithm.

4. According to claim1#wherein, the invention is to store the signal in Cloud. IoT Cloud-based information access systems and data are visualized in mobile using GUI

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