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Microcontroller Based Blood Pressure Monitoring System

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Abstract: *Blood pressure (BP) is the force exerted by circulating blood against the walls of the arteries. It's measured in two values systolic pressure (the pressure when the heart beats) and diastolic pressure (the pressure when the heart is at rest). Maintaining healthy blood pressure is pivotal, as high blood pressure (hypertension) can lead to severe health issues. Blood Pressure Monitoring Systems are essential for diagnosing and managing blood pressure- related conditions. A microcontroller base blood pressure monitoring system is a compact and effective result for nonstop and non-invasive blood pressure measurement. This system integrates a microcontroller with sensors, similar as a pressure transducer, to measure systolic and diastolic pressure values from the brachial artery. The pressure data is reused by the microcontroller, which uses algorithms to convert raw signals into readable pressure values. The results are also displayed on a screen, similar as an LCD for remote monitoring.*

Keywords: IoT, blood pressure monitoring, temperature monitoring, healthcare IoT, cloud platform, remote health monitoring, real-time data, smart healthcare, sensor-based system

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