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Disease Recognition and Health Monitoring System

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Abstract: This research paper presents a low-cost, portable disease recognition and health monitoring system utilizing an ESP32 microcontroller. The system integrates medical sensors such as the MAX30102 for heart rate and SpO_2 monitoring, and a TFT display for real-time data visualization. The innovation lies in a web-based diagnostic interface accessible via local Wi-Fi, enabling users to input key blood parameters (WBC, RBC, Platelets, Glucose) and receive instant feedback on possible health conditions. The paper highlights its significance in remote and rural areas lacking internet infrastructure, and discusses potential expansions including cloud integration and AI-based diagnostics.

Keywords: ESP32, Disease Recognition, Health Monitoring, IoT, Web Dashboard, Vital Signs, MAX30102



