

The Convergence of IoT and Machine Learning: A Survey of Real-time Stress Detection System

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Abstract : In today's rapidly evolving environment, stress has emerged as a significant health concern across different age groups. Stress that isn't controlled, whether it comes from job responsibilities, health issues, or the never-ending news cycle, can have a negative effect on our well-being. The problem is further aggravated by the ongoing connection to technology. In this high-tech age, identifying and controlling stress is vital. In order to solve this health issue, the study focuses on three key metrics for stress detection: body temperature, heart rate, and galvanic skin response (GSR). These parameters along with the Support Vector Machine classifier assist the system to categorize stress into three groups: 1) Stressed, 2) Not stressed, and 3) Moderate stress. Proposed training model, a NodeMCU combined with particular sensors collects data in real-time and rapidly categorizes individuals based on their stress levels. Real-time stress detection is made possible by this creative combination of hardware and software.

Keywords : real time stress detection, NodeMCU, sensors, heart-rate, body temperature, galvanic skin response (GSR), support vector machine

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