IOSR Journal of Engineering (IOSRJEN) **www.iosrjen.org**
ISSN (e): 2250-3021, ISSN (p): 2278-8719
Special Issue || March. 2022 || PP 29-31
National Conference on Innovations and Research in Science & Technology (NCIRST-22)

Analyze blood pressure to recognize emotion of human being usingMachine Learning

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Abstract: *Emotion intelligent and user interfaces is playing a powerful role in everyday life of human beings by using emotion recognition techniques with wearable computing devices. The stress factor has been observed as a main object that influence a variety of human health action nowadays. The word stress is treated to be one of the dominant factors leading to different health problems. The analysis mostly depends on the medical practitioner and based on their clarification and evaluation. Still, it is not feasible for the user to get the medical practitioner exhausted on a daily basis due to the boisterous agenda. Blood pressure monitoring for stress management is accomplished by the transitory time of each pulse as well as artificial neuron network nearly new to anticipate human blood pressure.*
Key Word*: Emotional Intelligence; Artificial Neuron Network (ANN); Stress Detection System (SDS); photoplethysmography (PPG).*

I. Introduction

Stress is a terminology that is identified to be the only cause due to which a person suffers from several physical disorders. It has extensive impact on our body intransigence which unknowingly leads to several issues. The recognition of hypotension is depended on arterial blood pressure standard uniform with a sphygmomanometer, which is known as standard methodology for measuring blood pressure. In two different perspective the recognition of hypotension and the monitoring of blood pressure have mostly been studied. A regression task is the first approach addresses the issue of monitoring blood pressure as it generates continuous values. Thus, PPG and ECG signals are evaluated from the systolic and diastolic blood pressure estimation. Linear regression models and ANN for regression tasks are two different ML techniques which is mainly used as inputs for estimating BP values. Atypical BP may cause dynamic problem that can lead to heart attacks and kidney failure. To detect abnormal blood pressure, different measurement devices are widely used.

Although, control of high BP has been managed but there are some steps for avoidance but hypertension still remain a main public health challenge. However, the lack of perception about high BP can outcome in the danger for heart failure and kidney disease with absence of emotion monitoring systems. In the field of the internet, SNS is the key item in the solution of primary emotion. Newly, various form of social website is relevant due to the development of e-communities like groups collaborating with online sites. For identifying periodically changes in blood volume and vascular capacity the cardiovascular system is mostly preferable which notably change its internal pressure and which will help to detect stress. The blood pressure and glucose levels are altered by emotional state, it is due to yank in the movement of the sympathetic and autonomic nervous systems.

II. Review on Data Analysis

As it needed to analyze the level of Emotional Intelligence of students as well as to finding out the variation between Emotional Intelligence on the basis of gender, locality, and level of course and School of study. As the study was to know patients suffering from high blood pressure differ from normal people on emotional intelligence where distinct techniques were comprised to find out whether type of case has an impact on emotional intelligence momentous difference was found between patients and normal people on emotional intelligence. Were the emotional intelligence forms the moment at which awareness and emotion meet, it promotes our capacity for resilience, encouragement, affinity, analysis, stress management, conversation, and our ability to read and navigate a plenty of social situations and conflicts. The impact of EI on student leadership is stock-still in its untimely phases of development. Even so, primary research illustrated a positive association between high levels of students EI and high- performing organization. The research on EI in other area relented huge quantities of relevant data designating that a leader who demonstrated a detail comprehension of emotion.

EI affect and if sophisticated affords one the moment to get a morefulfilled and happy life.

III. Stress Detection System

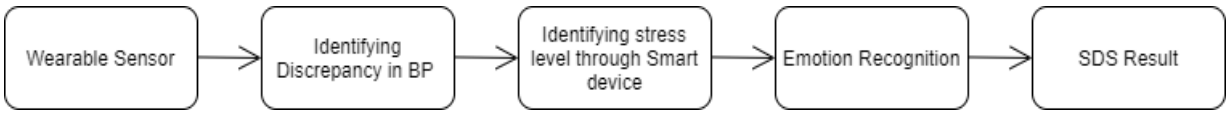

Fig 1. Stress Detection Systephotm

The wearable sensors are majorly based on SDS is able to estimate variant in blood pressure with the help of. As illustrate in Fig.1, the data will collect by wearable sensor and then transmitted for variation of BP then with the help of smart device it will identify the stress level via Bluetooth. After recognition of emotion the stress result will produce with the help of SDS system.

Even though ordinary stress is obliging for persons. The interminable stress can be led to numerous health concern, such as high blood pressure, vulnerability to infections, restlessness. By some particular conditions and incidents, the stress often cannot be handled. A machine and deep learning are branches that illustrate to be coming of technology in the biomedical field. With the objectives of accomplishing long-term continuous BP estimation, many firms and academic research groups have explored various ways to measure BP with mobile phones or wearable sensors.

IV. Material and Method

Blood pressure measurement for stress management:

The artificial intelligence-based fuzzy assisted Petri net (AIFAS) method is used for stress estimate on BP monitoring. Blood pressure control for stress management is carry out by the transient time of each pulse. Blood pressure (BP) is a dual metric, measured as 120/80 mmHg in a proportion. The basic number consists of the systolic pressure that stops blood from contracting and streaming on the artery walls of the heart. Second, the pressure of the blood against the artery wall as the heart rests between some of the pumps; this is known as diastolic pressure.

Stress is often associated with BP reactivity, through which stress may lead to poor physical health. When there is stress identified with high influence negative emotions such as annoyance, anger BP increased and when it is low influence positive emotions such as pleasure, comfort then BP decreased it majorly effect on student. Blood pressure and heart rate can rise concurrently in certain cases, such as when there is ultimate stress. BP monitoring for stress management is achieved by detecting the ephemeral time of every pulse. Stressful conditions can lead to blood pressure to stake temporarily, however due to stress; long-term high blood pressure cause major issue as it effects on emotionally section of humans. Specific behaviors are associated with higher blood pressure, such as: Having stress, Deficiency of physical activity. Emotion is present everywhere in human daily life and can impact or even regulate our perception. For example, in education system, specifically current online classes during the COVID-19 pandemic period, student's emotional involvement and interactions with teachers have a huge impact on their learning ability, enthusiasm and even course options. In stress, everlasting depression results in emotional collapse, lethargy and increased perceptivity to spiritual and substantial conditions such as nervousness, heart failure and peptic ulcers.

V. Conclusion

In modern times, as a result of fast changing social values & lifestyle. Peoples with high Emotional Intelligence are often more successful than the people's with more Intelligent Quotient (IQ). Thus, in today's scenario Emotional Intelligence is very important for any manager, executive and for any working personality. Using different machine learning techniques such as PPG, Fuzzy logic, ANN it's become easy to detect the emotional intelligence through blood pressure.

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