Disease Prediction By Articulatory Analysis Using Deep Learning

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ABSTRACT:
In today’s technology, there is a lot of development involved in the field of medical. At the same time, the continuous monitoring of the patient’s health condition also takes a vital role in the medical field. For example, the heart rate is to be simultaneously monitored. In this project, the continuous analysis of the heart beat is done by using the arduino microcontroller. In addition to this, the temperature is also monitored by using the LM35. The normal and abnormal heart rates are measured by connecting the pulse sensor to the patient. The overall process is continuously updated to required authority using GSM module and also updated in mobile application by using Bluetooth module. The emergency message to the doctor or relatives when the abnormal activity of pulse rate or temperature is detected. For that, the arduino IDE platform is employed. Hence an efficient health monitoring system can be designed.

Keywords: Internet Of Things(IOT), Medical Devices, Sensors, Monitors.

I. INTRODUCTION:
Nowadays, growth rate of people with Associate in Nursing infections is just too huge and therefore the population of developing or developed country is obtaining enhanced this helps the diseases unfold faster from one to a different So that folks want Associate in Nursing medical care and continuous monitoring of health to safeguard themselves et al from that diseases[1]. If you wish to be healthy its extremely necessary to self-monitor. this is applicable even to people who feel and believe they are in smart fitness [2], since several unknown health problems have no discernible symptoms whatever additional common than you'd presumably assume to suffer from a specific health condition while not even knowing it[3][4]. therefore do take care of your health and check that you acknowledge wherever you stand once it involves your weight, vital sign, temperature and additional[5].

II. LITERATURE REVIEW:
A lot of analysis is finished on the Health observance. Gokulnikittasanjay[6], et-al 2018 had detected the body condition and site of the patients mistreatment the suppose speak cloud service. C[7]. Senthimalarasi pointed out a way to analyse the patients heartbeat rate and temperature[8], however it's the disadvantage of leak of sensitive info.so, the technique to analyse, monitor, and report the heart beat rate and also the temperature has been projected here[11]

III. EXISTING SYSTEM:
In a hospital, either the nurse or the doctor possesses to maneuver physically from one person to another for medical checkup, which can not be attainable to observe their conditions xv continuously[5]. Thus, any vital things cannot be found simply unless the nurse or doctor checks the person’s health at that moment. this could be a strain for the doctors who ought to lookout of tons range of people inside the hospital[2][3]. Also, once medical emergencies happen to the patient, they are typically unconscious AND unable to press an Emergency Alert Button[8], one in every of the appliance protocols that have gotten accustomed transfer information is Hyper Text Transfer Protocol (HTTP) for general communication over net[10].

3.1 PROBLEMS IN EXISTING METHODS:
The Basic troubles related to the Healthcare Professionals and Patient is,

- The Healthcare specialists have to be gift on web page with the affected person all the time.
- The affected person stays admitted in a health facility for a time period for scientific checkups.

When HTTP is implemented to verbal exchange in IOT, protocol overhead and ensuing overall performance degradation are a critical trouble[4][5]. Moreover, IP addressing relies upon on bodily location, which reasons the trouble of complexity of network control

IV. PROPOSED SYSTEM:

A simple and efficient health monitoring system is designed with the use of sensors. The sensors used here include heart rate/pulse sensor and temperature sensor[9]. The heart rate measurement and temperature measurement are crucial health monitoring parameters. Hence we are monitoring these two parameters in this project. The microcontroller used here is Arduino Uno[6]. The microcontroller collects the data from sensors and sends to the required authority to a mobile app and sends message to the mobile of the required authority through GSM module connected with it[8][11]. The Bluetooth module updates the sensed data to the mobile app. The GSM module sends the status of the patient whether normal or abnormal to the given mobile number (can be relatives or doctors)[10]. This method helps patients to be monitored for 24*7 hours. By this way patient health is monitored efficiently and intelligently.

4.1 ADVANTAGES OF THE PROPOSED SYSTEM:

No ought to keep and wait in long que to induce your regular scrutiny. Now u will simply sit back and relax reception all reports are directly and safely sent to the doctor for the regular check[4]. Doctor or the specialist will simply bear the patients reports over the system from a distant place and may simply get the background similarly because the gift scenario of the patient to produce correct treatment.

4.2 PROPOSED SYSTEM BLOCK DIAGRAM:

![Block Diagram of Proposed System]

4.3 APPLICATIONS OF THIS PROJECT:

IOT health care is that the foremost strict field among the health care field. This is essentially for the older voters[4]. And conjointly for every and each previous national living alone or living with somebody[8]. The project is undisputedly terribly facilitate full as will observation is straightforward to be done and might be done by a personal World Health Organization is alone reception or far-off from relatives. Disable folks will simply use the project because it contains a little size conjointly simple to use[11]. This is conjointly for those that realize onerous to require outings for his or her regular check ups and realize it onerous to go to a specialist

4.4 HARDWARE USED IN THE PROPOSED METHOD:

- Hardware Module Of Arduino UNO
• Description of Arduino Uno

4.5 MODULES:
• Interfacing components
• Programming the board
• Data monitoring
• Data transfer
• Verify for status (normal/abnormal)

V. INTERFACING TOOL:
The sensing elements (here temperature sensor and pulse sensor)[5], Bluetooth and GSM are interfaced with Arduino using jumper wires as shown below.

Interfacing LM35 temperature sensor with Arduino
Interfacing Pulse sensor with Arduino

![Interfacing Pulse sensor with Arduino](image1)

Interfacing Bluetooth with arduino:

![Interfacing Bluetooth with arduino](image2)

5.1 PROGRAMMING THE BOARD:
The arduino is programmed exploitation arduino IDE and it's uploaded to the board exploitation USB cable. The program is written, compiled and verified[7], and uploaded to the board by correct choice of board sort (Here arduino Uno) and communication port[2].

5.2 DATA MONITORING:
The pulse device and temperature device incessantly monitors and measures the heart beat and temperature of the patients and report it to arduino[9].

5.3 DATA TRANSFER:
The monitored parameters are send to arduino for any process[4]. The arduino gathers the info and transmit them to Bluetooth module.

5.4 VERIFY FOR STATUS:
With the measured information the standing of the patient is set and also the standing is send to the specified authority through GSM[10].

VI. CONCLUSION AND FUTURE SCOPE:
Specialists and doctors can merely examine the patient reports at the time of emergency and would possibly take acceptable steps consequently[5][6], therefore giving correct steering at correct time to prevent crisis. The concerned person can lookout of patient whereas not their actual physical presence the system automatically creates the diagram of body modifications and reports to the doctor concerning the recent amendment of events[11]. The sign and vital sign parameter unit of measurement thus vital that a doctor can merely predict the matter patient goes through and in addition will save time. The project is unbelievably helpful for the parents living in remote areas and doesn’t have access to any or all the medical facilities[3][4]. this may be subject matter as a touch home clinic where one will merely sit and acquire a daily check up done. One will simply sit in an exceedingly place and monitor quite one patient at a time[8][9]. Made nursing easier than it appears these
days[1]. We can additionally add parameters like European Community, position, movement, weight, pressure, blood atomic number 8.

REFERENCES


