The coronavirus has caused havoc in the world, with the pandemic COVID-19. Hence, we selected CAMISA, with the foremost objective of a covid-positive patient being able to self-monitor, as this helps in cost reduction and also prevents the spread of the pestilence. Camisa helps in balancing the knowledge between the hardware and neural network. The clinical parameters like temperature, heart rate, breathing pattern, SpO2 obtained from the sensors used in shirt and mask are fed to the artificial neural network model, where it determines whether the patient is suffering from the virus or not. If yes, the health caregiver should be informed, so that treatment and monitoring is done. In addition to the above-mentioned, a predictive AI Model is designed for the same, as ANN helps in decision-making, to check whether a patient is suffering from COVID or not, based on the symptoms he is experiencing

Features:

- The proposed system consists of a shirt and a mask.
- The Shirt comprises of a temperature sensor DS18B20. The MAX30100 pulse oximeter sensor will retrieve the pulse beat data along with the SpO2 level, i.e the oxygen saturation level. The NTC Thermistor sensor will retrieve the temperature data.
- Then this data will be sent to the Arduino Lilypad from where the entire data will be sent to the app, using NodeMCU.
- Now with respect to the mask, the STM32 microcontroller calculates the breathing rate with a thermistor and is fixed with a few driver circuits inside the mask, and the information is sent to the software application.
- The parameters from both shirt and mask are combined, and transferred via the internet, and if the patient is facing any difficulty in breathing, he can get immediate help or be rushed to a hospital, the location of which is visible on the user-friendly application

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PROJECT

CAMISA: An AI Solution for COVID-19

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