Project Title: Digital infrastructure for patient screening and monitoring for pandemic COVID 19 outbreak

Expected outcome: Intelligent assisted severity identification and stratification tool for novel coronavirus infected patients based on internet of things. This can also be used for continuously monitoring of the suspicious patients remotely.

Expected time: 3 months

Remarks: Funding -1 Lakhs

Project Investigators:

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Project Details:

Current Scenario and research gap

News of deaths among healthcare workers involved in the fight against the new coronavirus has highlighted the dangers of the disease. The highly contagious nature of COVID-19 combined with its sometimes ambiguous or asymptomatic presentation creates a serious conundrum for patients and healthcare workers alike. Hence digitized public emergency response platform for remote operation in healthcare system has become a paramount interest. The features of artificial intelligence and new application of IoT technology in health care accelerates diagnosis and treatment procedures. By this way it helps to empower doctors with high efficiency and benefit patients with better diagnosis.

Methodology

Instead of Front-line health workers inspecting the patients, IoT enabled temperature measurement sensors are deployed. Based on this and few other basic information patient is diagnosed as confirmed, suspected, or suspicious of 2019 novel coronavirus (2019-nCoV) infection. To improve the diagnosis accuracy suspected, quarantined cases are remotely monitored. The body temperature sensors are applied directly to the patient to provide continuous, real-time monitoring of any changes in body temperature. Nurse station gateways are being used to receive real-time patient data from the IoT enabled sensors for continuous monitoring. Temperature profile analysis will be carried out to predict the spread of Covid 19 patients thru cloud, the same will be sent to the doctors to decide upon the dosage of medicine online. Thus using artificial intelligence the information is used to classify the patients further as mild, moderate, severe, and critical. Further, in case of treatment difficulties, doctors can request the assistance of a cloud link to interact with experts or front-line experienced physicians who has handled similar cases. The schematic framework is shown in figure below.
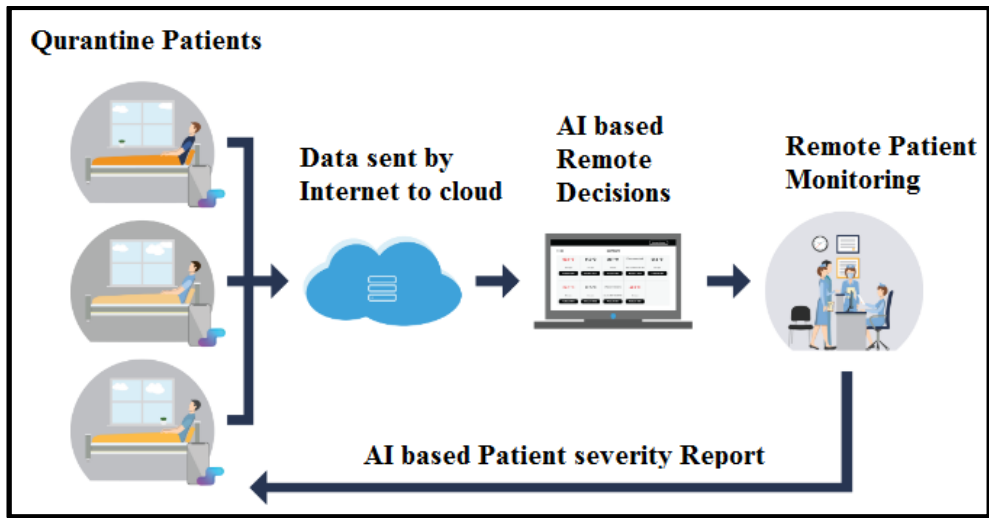
Fig. Schematic representation of digital Infrastructure for remote patient monitoring and decision making