

NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR



ASSIGNMENT

Emerging Technologies in Healthcare

Submitted By:

Name : Smriti Priya

Roll No. : 21111060

Semester : First

Branch - Biomedical

Engineering

Under The Supervision Of:

Dr.Saurabh Gupta

Department Of Biomedical

Engineering

NIT Raipur

Emerging Technologies in Healthcare

Diverse gadgets, drugs, vaccinations, procedures, and systems are used in healthcare to streamline operations, cut costs, and improve the quality of treatment provided.

1 Artificial Intelligence (AI)

1.1 In Diagnosis And Drug Development

AI is extremely useful for increasing the speed with which information is processed and decisions are made. Machine learning is particularly useful in the healthcare business for the development of novel drugs and the efficiency of diagnosis processes.

Example : *GOOGLE* DeepMind Health is building AI tools that can analyze vast amounts of medical data to discover new, easy ways to detect and treat diseases

1.2 In Mental Health

They were able to evaluate hundreds of online Reddit messages using an AI model and discovered that issues of suicidality and loneliness had virtually increased over time. This has the potential to change how we think about the mental health of vast groups of people.

2 Blockchain

The collecting and storage of medical history is projected to be fundamentally transformed by this technology. Not only it would be

easier to store information and access it through blockchain, but security threats would also be minimised. It would provide clinicians access to a patient's whole medical history, including any inherited disorders or allergies, allowing them to tailor treatment to provide the best care possible.

3 VR and AR

Virtual reality creates an immersive experience by providing the user with images of 3D-environments. The user can sometimes edit or alter the appearance of the environment as part of this virtual experience. Augmented reality, on the other hand, merely adds images or music to a real-world environment, which is then brought to life via AR glasses.

4 Internet of Medical Things (IoMT)

IoMT devices are quite useful in healthcare administration. They can provide treatment in rural regions where full-time facilities are not feasible. They bring regular consultations to people's homes, which is particularly beneficial for patients with limited mobility. Almost any normal test may now be performed on a portable point-of-care device, and the findings can be shared with a doctor remotely.

5 Telemedicine

Telemedicine is the use of electronic communications to transfer medical information from one location to another in order to enhance a

patient's clinical health state. Telemedicine encompasses an increasing number of applications and services that make use of two-way video, email, smart phones, wireless devices, and other telecommunications technology. Telemedicine's major benefits are greater access to healthcare, cost effectiveness, enhanced quality, and patient demand, especially in rural and remote places, while its major drawbacks are a lack of infrastructure and third-party payer reimbursement.