

## EMERGING TECHNOLOGIES DURING THE ERA OF COVID-19 PANDEMIC

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### ABSTRACT

*The covid-19 pandemic has rapidly spreading all over the world affecting millions of life and different sectors of the economy. In order to prevent the spread of this pandemic different measures were adopted globally. Complete lock down, social distancing, personal hygiene etc. are some examples. To avoid coming in contact with human beings and physical objects; which may be infected with the virus, several innovative and latest technologies were employed in different sectors. These technologies are playing one of the important roles to fight against covid-19. So the present study concentrated on the emerging technologies and their applications during covid-19 pandemic.*

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**Keywords:** COVID-19, Pandemic, Emerging Technology.

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### Introduction

The world is now going through one of the severe health calamities of the centenary. The Coronavirus (COVID-19) outbreak in Wuhan, China is now rapidly spreading all over the world, and affecting every nook and cranny of the universe, also upsetting the human lives. The world is now facing a global recession. Initially, the COVID-19 was declared as a public health emergency of international concern by the World Health Organization (WHO), later on, the alarming ramification of Coronavirus made the WHO to declare it as a pandemic. Corona is an infectious disease spread from one person to another via droplets produced from the respiratory system of infected people often during coughing and sneezing. In order to break the spread of COVID-19, the countries across the world have taken several measures like social distancing, quarantine, personal hygiene, travel restrictions, the full lockdown of countries...etc.

The pandemic adversely affected the people in the society. The emerging technologies have been widely used in the past but the outbreak of COVID-19 pandemic requires the use of these technologies for different sectors to mitigate the impact of pandemic. In health care, these technologies can be used for early detection and prediction of diseases, drugs and vaccine development.etc. In the education field technology enabled "anytime anywhere" teaching and learning can be ensured with the help of these technologies. So it is essential to understand what these emerging technologies are, and how it is used during the pandemic period in different sectors. So it is in this backdrop the present study carried out to discuss about the 'emerging technologies during the era of COVID-19 pandemic'.

### Objectives of the Study

Following are the main objectives of the study:

- To discuss about the emerging technologies during the COVID-19 pandemic.
- To understand how these technologies used during the pandemic period.

### Research Methodology

The study relies on secondary sources of data collected from various journals, websites and News reports.

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### Emerging Technologies

Following are the emerging technologies which have been widely used in the past, but the outbreak of COVID-19 pandemic requires its effective usage to prevent and mitigate the effects of pandemic on different sectors.

- **Artificial Intelligence**

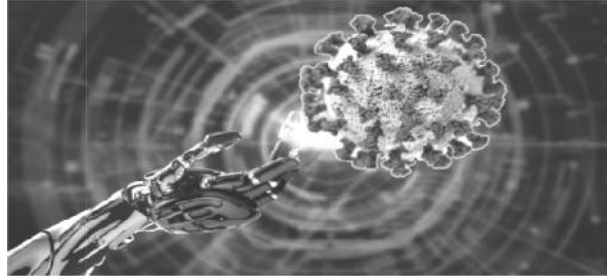


Image: diplomatist.com

Artificial intelligence is the computer assisted programs which feign human intelligence in machines. These smart machines are capable of performing like human beings. These machines can think, learn, perform and solve the problems humanly. The use of AI during covid-19 pandemic is priceless.

- AI can give early warning and predictions of disease.
- Analyze large volume of data and predict the disease spreading trend.
- Early detection of cases and diagnosis of infection
- The treatments can be monitored.
- Development of drugs and vaccines.
- The workload of healthcare professionals can be reduced

- **Big Data**



Image: sdtimes.com

Big data is large volume of data which is growing exponentially with the passage of time. The big data applications during covid-19 pandemic are:

- The complete medical history of people can be stored and analyzed.
- The travel history of people can keep to predict the risk and to identify people who are in contact with the infected people.
- Collecting and storing complete information regarding the virus.
- Assistance for faster development of medicines.
- Details of persons entering and leaving the infected area can be collected; this helps the healthcare professionals to identify the chances of virus spread.
- In the education field the uses of big data are:
- Large volume of data in educational institutions regarding the students such as their enrolment, attendance, drop out etc. can be managed easily.
- Data can be easily retrieved and transferred from one organization to another.

- **Tele Medicine**



**Image: Expresshealthcare.in**

Tele medicine is the technology assisted remote health care services. The doctor treats the patients with the help of a computer or Smartphone. “Tele” is the Greek word meaning “distance” and “mederi” is the Latin word meaning “to heal”. With the help of electronic communication, remote clinical services provided to the patients. Remote medical diagnoses, Video consultation of doctors are examples of tele medicine.

- **Drones**



**Image: weird.com**

The formal name of drones is ‘unmanned aircraft system’ or ‘unmanned aircraft vehicle’. Drone is a remotely controlled or software controlled flying robot working in alliance with GPS and onboard sensors. Earlier it was used in military services but now it has wide range of utilities in different fields.

- During Covid-19 pandemic drones used to deliver essential medical supplies and test kits to people.
- For disinfecting the public places drones are used. It will take less effort and time to disinfect public places compared to the manual work.
- During the lock down period drones used to help police patrol with the aim of conducting contactless surveillance. It helps to ensure that people are obeying the social distancing rules.

- **Robotics**



**Image: robotlab.com**

Robotics is an interdisciplinary science; which creates machines; called robots with the collaboration of science, technology and engineering. These robots are the substitutes for human beings to execute one or more tasks with speed and precision. In order to fight against the novel corona virus the robots are employed in the medical field. This helps to reduce the spread of virus by reducing the human contact.

- Mobile robots are used instead of doctors for routine temperature check up.
- Medicines can be dispensed to patients with the help of robots.
- Trash pickup, Room cleaning and meal delivery can be done using robots.

- **Augmented Reality**



Image: [theconversation.com](http://theconversation.com)

Augmented reality is the technology that enhances the physical world by adding digital elements on a real-time basis. It can be achieved through adding sounds, digital visual elements and other sensory stimuli with the help of technology. AR is a combination of three elements; real and virtual world, Real time interaction and 3D registration of objects. The use of augmented reality helps students to gain their interest in learning because this technology provides an indirect vision of a real-world setting. This will give the students a real world experience with graphics and sensory elements.

- **Virtual Reality**



Image: [towardsdatascience.com](http://towardsdatascience.com)

Virtual reality is a computer generated artificial environment that allows the users to get immersed in a 3D world with scenes and objects appear to be real. This technology helps student to gain deeper engagement as compared to a traditional textbook. They can visualize and learn the elements with a great understanding.

- **Internet of Things**



Image: [information-age.com](http://information-age.com)

Internet of things is the interconnected devices and systems over the internet. IoT helps to store and share the data through wireless network without human interventions. IoT being an innovative technology useful for patients, health care professionals and hospital management systems.

- IoT helps to capture health data from various locations of the infected patients.
- IoT create a smart network for the proper health management system.
- It helps to inform the medical staff during any emergency and they can act quickly.

- **Cloud Computing**

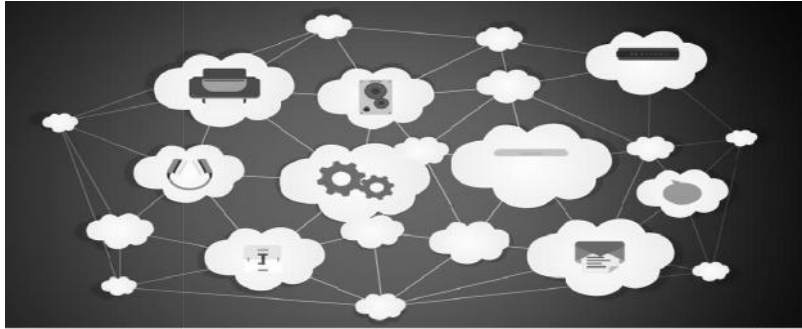


Image: [keyinfo.com](http://keyinfo.com)

Cloud computing is the process of delivering different types of services over the internet.

- Cloud computing is beneficial to the health care professionals in such a way that managing the data of large number of patients become much easier job.
- Accessibility to faster cloud servers helps to easily upload, retrieve and share the data.
- Private and hybrid cloud system also provides security to patients medical and financial details.

- **Block Chain**

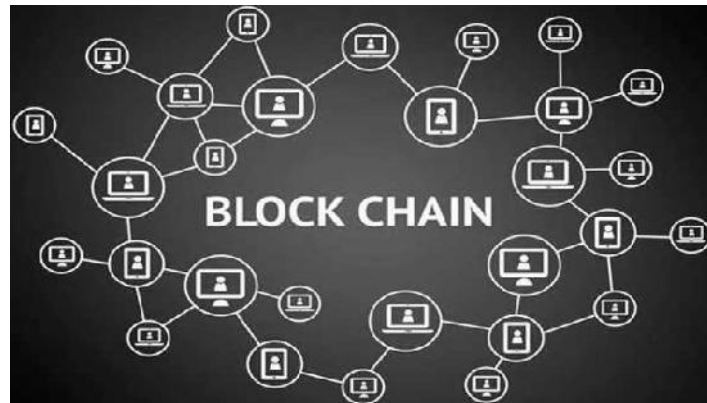


Image: [expresspharma.in](http://expresspharma.in)

Block chain system records the data in such a way, as it is difficult to change, hack or cheat the system. Block chain name comes from its structure. The block chain technology helps to share real time information to all the strategic partners, helps to trace the contact of patients and effective supply chain management.

### Conclusion

In this pandemic period to prevent the spread of covid-19 people should ensure social distancing. Technology is the only option that helps us to connect with our near and dear ones. Technology is in the supporting role to fight against corona pandemic. It gives assistance in every field to manage the crisis effectively. Human beings are depending on technology more than ever. COVID-19 has made our vision towards technology more relevant and urgent than before. Now technology is in the forefront to meet the challenges posed by the pandemic.

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