

MAGAZINE

# INFOTECH

2021 - 2022



VOLUME 6

ISSUE 2



# INSTITUTE

## Vision

"To satisfy the aspirations of youth force, who wants to lead nation towards prosperity through techno-economic developments"

## Mission

To provide, nurture and maintain an environment of high academic excellence, research and entrepreneurship for all aspiring students which will prepare them to face global challenges, maintaining high ethical and moral standard



### Vision

"To be a nucleus nurturing learner to cater current & future digital needs"

### Mission

1. To groom learners for addressing technical challenges by utilizing knowledge and skill sets.
2. To inculcate professional values to develop effective and efficient organization through best practices.

### PEOs

PEO1: Graduate shall have the ability to exhibit excellence in professional career by demonstrating a positive representation of their brand.

PEO2: Graduate shall have the ability to learn latest trends coping present and future needs.

PEO3: Graduate shall have sense of social responsibility by balancing the emotional quotient and strengthening the personal traits

### PSOs

PSO1: Apply appropriate technologies and employ suitable methodologies by managing the information technology resources of an individual or organization for betterment.

PSO2: Anticipate the ever changing trends in information technology and assess the likely utility of new technologies.

PSO3: Develop IT systems that would resolve issues related to socio-economic development and build the nation through digitization.

**CHIEF EDITOR**

*Prof  
Rekha Kotwal*  
**IT DEPT**



**STUDENT  
COORDINATOR**



*Abhishek Pawshekar*



*Anuja Jadhav*





## **01 Siri by Apple**

Siri, Apple's famous virtual assistant, takes the top spot as it is one of the most popular AI virtual assistant apps. Available on major Apple platforms, such as iOS, iPadOS, macOS, watchOS and tvOS, Siri helps keep its users connected.



## **02 Assistant by Google**

Launched in 2016, Google Assistant is Google's AI-enabled, voice-powered virtual assistant and is considered one of the more advanced virtual assistants.

## **03 Alexa by Amazon**

Known simply as Alexa, Amazon's virtual assistant technology is largely based on a Polish speech synthesiser named Ivona, bought by Amazon in 2013.



## **04 Bixby by Samsung**

Samsung's virtual assistant, Bixby, is integrated into the company's smartphones to make them easier to use. The virtual assistant learns, evolves and adapts to the user and works alongside apps in the phone to help users get more done.



SPACE TECHNOLOGY

# James Webb Space Telescope

The James Webb Space Telescope (JWST) is a space telescope which conducts infrared astronomy. As the largest optical telescope in space, its high resolution and sensitivity allow it to view objects too old, distant, or faint for the Hubble Space Telescope. This will enable investigations across many fields of astronomy and cosmology, such as observation of the first stars, the formation of the first galaxies, and detailed atmospheric characterization of potentially habitable exoplanets

The U.S. National Aeronautics and Space Administration (NASA) led JWST's design and development and partnered with two main agencies: the European Space Agency (ESA) and the Canadian Space Agency (CSA).

Photo by nasa space flight

**Avdut Joshi BE-IT**



# EDGE COMPUTING

**Edge computing is a new approach to processing data in which operations do not take place within a data center. Instead, computation and storage occur within localized devices at or near the network's edge (i.e., the point where end devices connect to a network to deliver data and receive instructions from the central server).**

TRENDING

# Optical Ethernet

In the LAN (local area network), the physical layer is known as optical Ethernet. This is used to transmit the data through fiber optic cable. It is used to connect switches as well as internet servers within data centers, equipment racks & among urban data centers

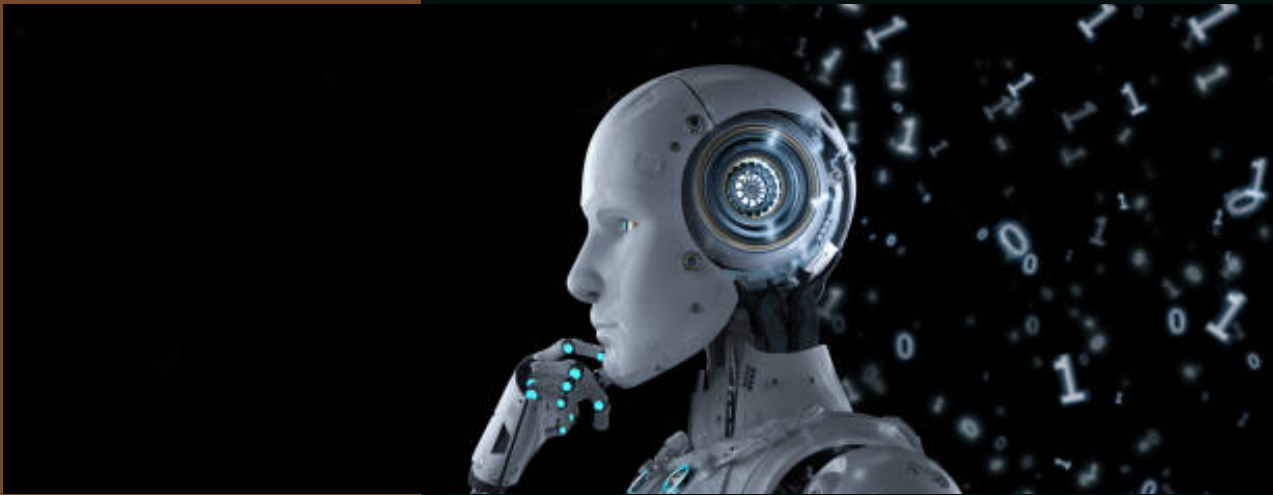
At present, the data rate which is used most widely is 1 Gb/s. These are inadequate to hold up core networking necessities like routing, switching, routing & aggregation within huge data centers. To overcome this, optical Ethernet is implemented which is extended from LANS to MANs & WANs.



# SOPHIA ROBOT

Sophia is a social humanoid robot developed by the Hong Kong-based company Hanson Robotics. Sophia was activated on February 14, 2016, and made her first public appearance in mid-March 2016 at South by Southwest in Austin, Texas, United States

**Aishwarya Pawar TE-IT**



*the top technology  
trends*

**2022**

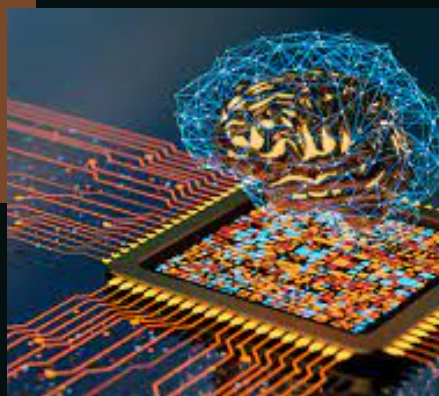
## INFO

Nearly 50 billion devices will have internet connectivity by 2030. With the COVID-19 pandemic boosting businesses' digital transformation journey, this goal is closer than anticipated. The familiarity with the latest IT technology holds the key to advancing your career and exploring new opportunities.



### **Robotic Process Automation (RPA)**

Robotic Process Automation (RPA) uses multiple software and applications to automate business processes such as data collection and analysis, customer service and other repetitive tasks managed previously through manual processes.



### **Artificial Intelligence**

Artificial Intelligence, also known as AI, started gaining popularity a decade ago. It has still not slowed down and continues to be one of the leading technologies in 2021.



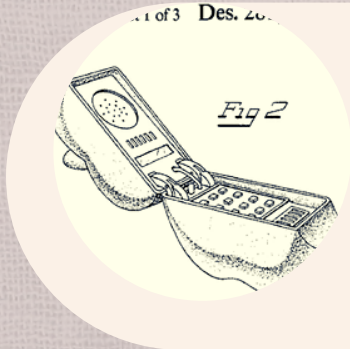
### **Virtual Reality (VR) and Augmented Reality (AR)**

VR and AR have been popular for almost a decade now. Virtual Reality immerses the user into a new environment, while Augmented Reality enhances the user's existing environment.



# 5 FUN FACTS *to know about* - TECHNOLOGY -

Omkar Suryavanshi BE-IT



## 1. Apple Flip Phone

Before the original design for an iPhone, Apple patented a phone design in the shape of an actual apple. It was a flip phone that, when closed, would look like the Apple logo.

## 2. Every iPhone advertisement has the time set to 9:41

Every advertisement for an Apple iPhone, the time will be set as 9:41. This is the time that Steve Jobs announced the very first iPhone in 2007



## 3. The name Google was created accidentally

The name Google was created accidentally, it was originally supposed to be named 'Googol'. (Googol is the digit 1 followed by 100 zeroes). The founders checked to see if that domain name was taken, but accidentally searched for 'google.com' instead of 'googol.com'. They liked that name even better and registered the domain name on September 15, 1997.

## 4. Facebook will pay \$500 if you find a bug in their code

as part of their Bug Bounty programme.

If you find a security bug in Facebook's code, they are willing to pay from \$500 for you to tell them about it! The largest bounty ever reported to Facebook received \$50,000.



## 5. YouTube was created to be a dating site

YouTube.com was registered on February 14th, 2005 (Valentine's day) with the purpose of being a video-dating site. It was designed as a way for people to upload videos of themselves talking about the partner of their dreams.

But after some time when no one was uploading their videos, YouTube changed to allow uploading of any kind of video.





FACT

---

# QUANTUM COMPUTER

Quantum computing is a new generation of technology that involves a type of computer 158 million times faster than the most sophisticated supercomputer we have in the world today.

It is a device so powerful that it could do in four minutes what it would take a traditional supercomputer 10,000 years to accomplish.



... *Hacking Case* ...

# THE ICLOUD CELEBRITY HACKS (2014)

ACCOUNTS - INCLUDING MANY A-LIST CELEBRITIES LIKE JENNIFER LAWRENCE AND KATE UPTON - WERE ACCESSED ON THE APPLE CLOUD STORAGE PLATFORM IN 2014.

HACKERS USED A COMBINATION OF BRUTE-FORCE GUESSING AND PHISHING SCHEMES TO GAIN ENTRY. THEY SENT OFFICIAL-LOOKING EMAILS TO ACCOUNT OWNERS WITH INSTRUCTIONS TO LOG IN AND CHANGE THEIR SECURITY CREDENTIALS. ANYONE WHO DID GIVE THE HACKERS EVERYTHING THEY NEEDED TO GET IN AND COPY FILES.

PRIVATE - AND IN MANY CASES NUDE - PHOTOS AND VIDEOS WERE SUBSEQUENTLY RELEASED ONLINE OVER THE NEXT FEW WEEKS.

SEVERAL (SEEMINGLY) UNCONNECTED INDIVIDUALS WERE INVESTIGATED OVER THE NEXT FEW MONTHS, AND AT LEAST TWO WERE FOUND GUILTY AND SENTENCED TO BETWEEN 9-18 MONTHS IN LATE 2016 AND EARLY 2017 FOR CRIMES RELATED TO THE HACK.



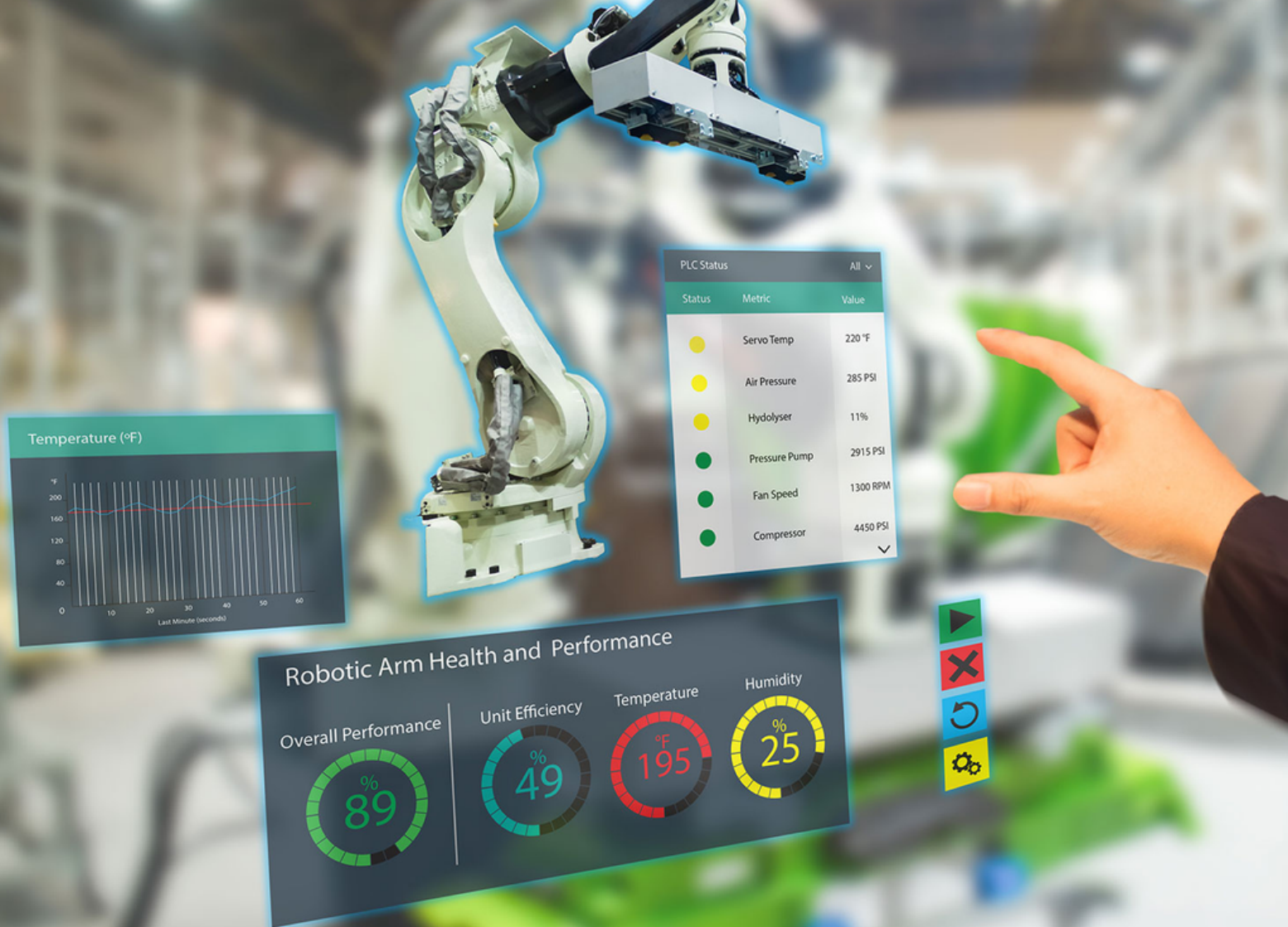


# VIRTUAL REALITY

**VIRTUAL REALITY (VR) IS A COMPUTER-GENERATED ENVIRONMENT WITH SCENES AND OBJECTS THAT APPEAR TO BE REAL, MAKING THE USER FEEL THEY ARE IMMERSSED IN THEIR SURROUNDINGS. THIS ENVIRONMENT IS PERCEIVED THROUGH A DEVICE KNOWN AS A VIRTUAL REALITY HEADSET OR HELMET.**

Shubhangi Alkunte TE-IT





TECHNOLOGY

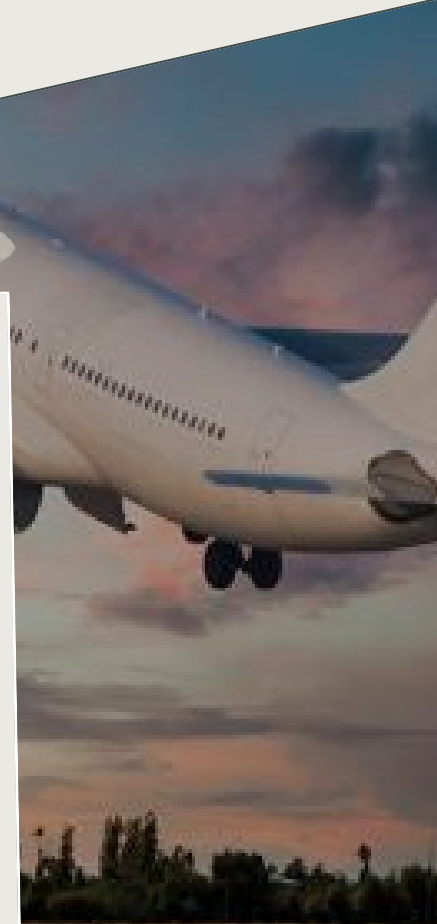
# AUGMENTED REALITY

Augmented reality (AR) is an interactive experience that combines the real world and computer-generated content. The content can span multiple sensory modalities, including visual, auditory, haptic, somatosensory and olfactory. AR can be defined as a system that incorporates three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects. The overlaid sensory information can be constructive (i.e. additive to the natural environment), or destructive (i.e. masking of the natural environment).

This experience is seamlessly interwoven with the physical world such that it is perceived as an immersive aspect of the real environment.[

Photo by ekkasit919 - stock.adobe.com

# GPS AIRCRAFT TRACKING



**GPS AIRCRAFT TRACKING IS A MEANS OF TRACKING THE POSITION OF AN AIRCRAFT FITTED WITH A SATELLITE NAVIGATION DEVICE. BY COMMUNICATION WITH NAVIGATION SATELLITES, DETAILED REAL-TIME DATA ON FLIGHT VARIABLES CAN BE PASSED TO A SERVER ON THE GROUND. THIS SERVER STORES THE FLIGHT DATA, WHICH CAN THEN BE TRANSMITTED VIA TELECOMMUNICATIONS NETWORKS TO ORGANIZATIONS WISHING TO INTERPRET IT.**

# NANO TECHNOLOGY

Nanotechnology is the term given to those areas of science and engineering where phenomena that take place at dimensions in the nanometre scale are utilised in the design, characterisation, production and application of materials, structures, devices and systems.



# 3D Printing

---

## 3D

3D PRINTING OR ADDITIVE MANUFACTURING IS THE CONSTRUCTION OF A THREE-DIMENSIONAL OBJECT FROM A CAD MODEL OR A DIGITAL 3D MODEL. IT CAN BE DONE IN A VARIETY OF PROCESSES IN WHICH MATERIAL IS DEPOSITED, JOINED OR SOLIDIFIED UNDER COMPUTER CONTROL, WITH MATERIAL BEING ADDED TOGETHER, TYPICALLY LAYER BY LAYER.



## Additive Manufacturing

PAPER

BY



## PAPER BATTERY

A PAPER BATTERY IS ENGINEERED TO USE A SPACER FORMED LARGELY OF CELLULOSE (THE MAJOR CONSTITUENT OF PAPER). IT INCORPORATES NANOSCOPIC SCALE STRUCTURES TO ACT AS HIGH SURFACE-AREA ELECTRODES TO IMPROVE CONDUCTIVITY.

THE  
A  
B

# TRENDING cluster computing

A computer cluster is a set of computers that work together so that they can be viewed as a single system. Unlike grid computers, computer clusters have each node set to perform the same task, controlled and scheduled by software

In computers, clustering is the use of multiple computers, typically PCs or UNIX workstations, multiple storage devices, and redundant interconnections, to form what appears to users as a single highly available system. Cluster computing can be used for load balancing as well as for high availability.

**Siddharth Jagtap TE-IT**







# 5G

In telecommunications, 5G is the fifth-generation technology standard for broadband cellular networks, which cellular phone companies began deploying worldwide in 2019, and is the planned successor to the 4G networks which provide connectivity to most current cellphones

5G wireless technology is meant to deliver higher multi-Gbps peak data speeds, ultra low latency, more reliability, massive network capacity, increased availability, and a more uniform user experience to more users.



# ROBOTICS

**Robotics is a field that studies and develops robots in order to make life easier. Robotics is a multidisciplinary field that includes computer science, electrical engineering, and mechanical engineering. Artificial intelligence, machine learning, and other computer science technologies are used in robotics.**

**Yogeshwari Dubale TE-IT**