# DIGITAL LITERACY

001

## A JOURNEY THROUGH ICT

ICT

00101

# IT CLUB

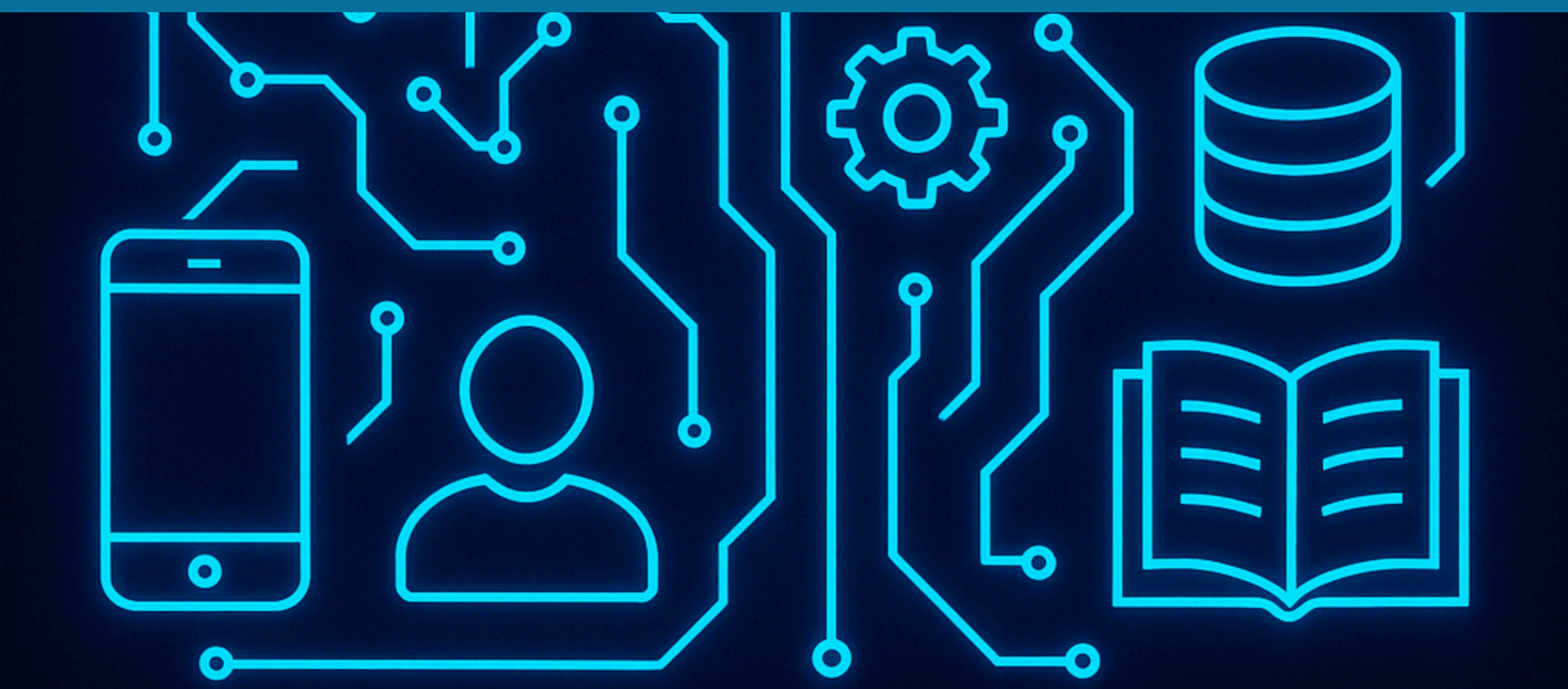
JAFFNA HINDU COLLEGE

IT CLUB

# Authors' message

Nowadays, science and technology are growing at a tremendous pace and it is imperative for students to understand them. Realizing the need, We, the president of the IT Club operating at Jaffna Hindu College, have created this book titled “Digital Literacy: A Journey Through ICT”. This book is suitable for all ages and includes appropriate images, examples and quotes to explain each topic in an attractive way. This book mainly covers the topics of Engineering, AI Technology, Cybercrime, Internet Of Things (IOT), Crypto Currency and Robotics and each main topic is divided into various sub-topics and has its own content in a neat manner. We believe that our work will serve as a good guide for students and a wonderful tool for understanding the basic principles of the fields of ICT and Technology.

P.Kanujan
R.Ghopishangar



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# Engineering

## Introduction to Engineering

Engineering is a field that uses the principles of science and mathematics to solve problems, design, create, and maintain solutions. It includes various divisions, including electrical engineering, mechanical engineering, civil engineering, computer engineering, and more.

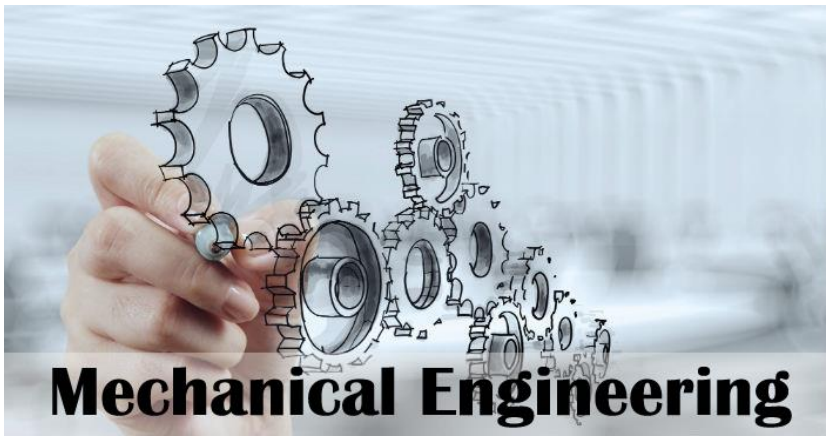
## Divisions of Engineering

There are various types of engineering. They are as follows;

### 1. Electrical Engineering

- Engineering that deals with electrical and electronic systems.

## 2. Mechanical Engineering:

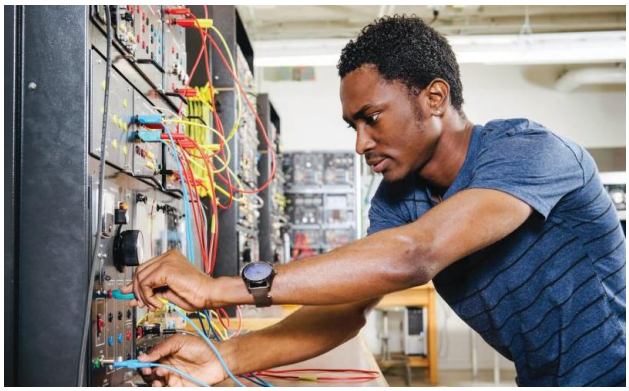



- Engineering that designs and maintains machines and automated systems.

## 3. Civil Engineering

- Engineering that designs and constructs structures such as buildings, bridges, and dams.

## 4. Computer Engineering



- Engineering that designs and develops computers and related systems.

## 5. Chemical Engineering

- Engineering that uses chemical processes to create materials and products.

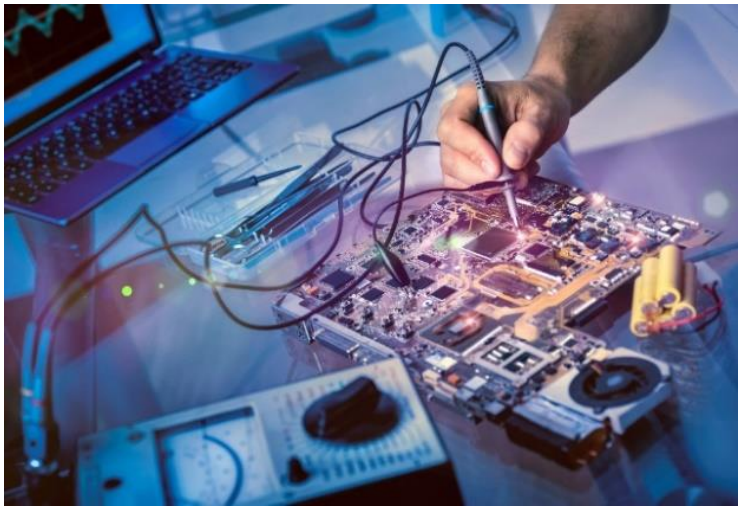
## 6. Biomedical Engineering

- Engineering that creates medical devices and technologies.

## 7. Aerospace Engineering

- Engineering that designs and maintains aircraft and spacecraft. Each of these is unique and focuses on a specific field.

## Computer Engineering



- Computer Engineering is the field that designs, develops, and maintains computer systems and their associated software, hardware, and networks. At present, it is a growing field that studies computers, their systems, and modern technologies, and creates new innovations.

**Some of the major areas that Computer Engineering focuses on are:**

### 1. Hardware Design

- Microprocessors, memory devices, electronic circuits, etc.

## 2. Software Development


- Operating systems, software applications, embedded systems, etc.

## 3. Networking

- Computer networks, internet, data communication, etc.

## 4. Embedded Systems


- Small, specific computer systems used in agriculture, healthcare, automobiles, etc.

- Computer engineering is a very widely used field, and its demand is increasing day by day.

- Engineering Education is an educational system designed to produce engineers who are skilled in high-quality technology and scientific research. It includes courses such as four-year undergraduate (Bachelor's degree) and postgraduate (Master's and Doctorate degrees).

**Engineering education is available in various forms:**

## 1. Undergraduate Programs


- A four-year course that introduces engineering techniques. It is offered as B.E. (Bachelor of Engineering) or B.Tech (Bachelor of Technology).

## 2. Postgraduate Programs


- It is offered as M.E. (Master of Engineering) or M.Tech (Master of Technology). It provides in-depth knowledge in each field.

### 3. Research Programs

- It includes Ph.D (Doctor of Philosophy) courses. In this, research is done on new inventions and technological developments.

### 4. Management Programs

- Courses like M.B.A (Master of Business Administration) develop professional management skills.

## Key components of engineering studies

- Basic Science and Mathematics: *Basics of Physics, Chemistry, Mathematics.*
- Engineering Fundamentals: *Basic principles and practices of each engineering field.*
- Exercises and Experiments: *Learning and in-depth understanding using technical experiments and traditional technologies.*
- Technical processes: *software, hardware, machinery, buildings, and chemical processes.*
- Management and professional skills: *administration, communication skills, project management.*

- ❑ After completing their studies, engineers can find jobs in various fields, including architecture, technology, research, and supervision.
- ❑ There are various job opportunities in the engineering field, and each engineering branch offers unique job opportunities.

**Some of the important job opportunities are,**

## 1. Electrical Engineering

- ✓ They design electronic devices and electrical products.

## 2. Power Engineer

- ✓ Carry out work related to the generation and distribution of electricity.

## 3. Mechanical Engineering

- ✓ Mechanical Engineer: Design and maintain machinery and automation systems.
- ✓ Aerospace Engineer: Design and build aircraft and spacecraft.

## 4. Civil Engineering

- ✓ Civil Engineer: They carry out construction work including buildings, bridges, roads.
- ✓ Environmental Engineer: They develop environmental protection plans.

## 5. Computer Engineering

- ✓ Software Engineer: They develop software applications.
- ✓ Network Engineer: They design and maintain computer networks.

## 6. Chemical Engineering

- ✓ Chemical Engineer: They design chemical processes and improve innovations.
- ✓ Production Engineer: They improve production processes and increase efficiency.

## 7. Biomedical Engineering


- ✓ Biomedical Device Engineer: They develop medical devices and instruments
- ✓ Clinical Engineer: In hospitals, they maintain medical equipment and processes

## 8. Aerospace Engineering

- ✓ Aeronautical Engineer: Design and maintenance of aircraft
- ✓ Astronautical Engineer: Design and maintenance of spacecraft

- ❑ Engineers qualified for these can get jobs in both the private and public sectors. Also, jobs are available in fields such as research and supervision.

**Some of the major challenges and future developments in the field of engineering are:**

## Challenges


### 1. Environmental Challenges

- ❑ Pollution Reduction: Maintaining pollution control in factories and production processes.
- ❑ Green Energy: Using reusable energy sources such as solar, wind, and water.

## 2. Technological Development

- ❑ Rapid technological changes: Coping with the changes brought about by new technologies and innovations.
- ❑ Security: Security vulnerabilities in the Internet, networks, and technologies.

## 3. Health and Safety

- ❑ Health impacts of technological devices
- ❑ Safety improvement in places where technologies are used.

## 4. Education and Skills

- ❑ Technology introductions and updates: Learning about emerging technologies.
- ❑ Skill development: Learning skills to face new challenges.

Future:

## 1. Automation and AI


- Use of automation and artificial intelligence (AI) in technical and professional tasks.
- Robotics and automation technologies are increasing.

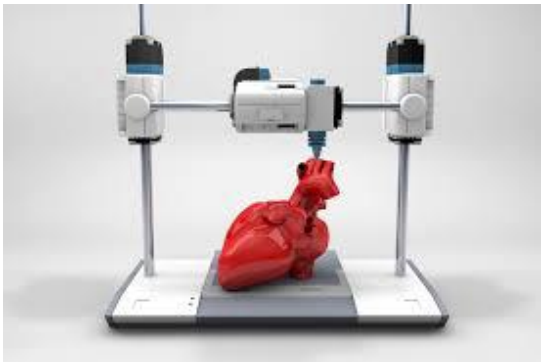
## 2. Green Technology:

- Self-sufficiency and environmentally friendly technologies.
- Modern green buildings, green energy production.

## 3. Space Exploration:

- Various new initiatives and innovations in space exploration.
- Human settlement efforts on other planets.

## 4. Modern Manufacturing Processes:



- ❑ 3D Printing and new manufacturing technologies.
- ❑ Faster manufacturing processes and higher efficiency.

## 5. Large Data and Analytics

- ❑ Making intelligent decisions using Big Data.
- ❑ Business decisions and performance improvement through technologies.

- ➢ All these are the key aspects that lead to the growth of the engineering field. Technological advancements and new innovations provide new challenges and opportunities for engineers.

- ➢ Technological Social Responsibilities of the engineering field are important because the work of engineers improves the quality of human society and has to address aspects such as environmental safety.

**Some social responsibilities of engineers in technical activities.**

## 1. Environmental Responsibility


- Waste Management: Ensuring pollution reduction in factories and production processes.
- Green Technologies: Using green energy sources such as solar, wind, water.
- Environmental Protection: Protecting wildlife, water and land.

## 2. Ethics and Safety


- Use of technology: Using technology correctly and safely.
- Safety rules: Following safety rules in factories and construction sites.
- Respect: Approaching the social consequences of technology with respect.

## 3. Social Welfare


- Public utility technologies: Making technology accessible to all.
- Health promotion: Improving medical equipment and health systems.
- Education and training: Providing technical education widely.

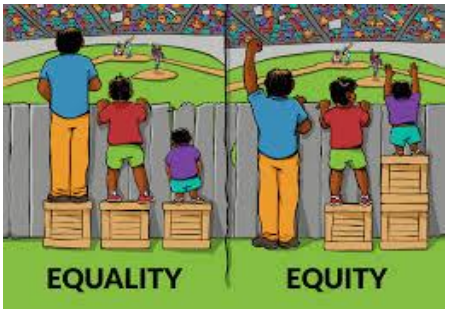
## 4. Basic services


- Water and electricity: Providing safe and constant water and electricity to all.
- Transport: Improving public transport and construction.

## 5. Technological innovation

- ❖ Research and development: Researching new technologies and innovations.
- ❖ Sustainable development: Ensuring sustainable development

## 6. Social Equity




- ❖ Technological Access: Making technologies fairly accessible to all communities.
- ❖ Workplace Equity: Providing equal opportunities in technical fields.

## 7. Disaster and Emergency Management


- ❖ Emergency Relief: Immediate relief and recovery operations in natural and man-made disasters.
- ❖ Safety Plans: Developing new safety plans to keep communities safe.

➢ It is very important for engineers follow these responsibilities in mind during their technical activities. Not only this, they should also develop the skills to use technologies to improve the welfare of society and face various challenges. AI technology

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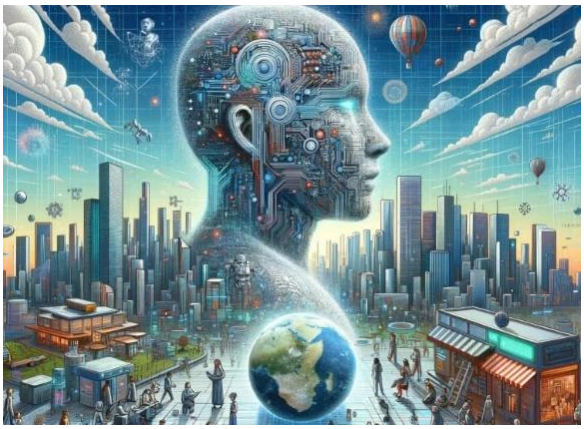
# AI TECHNOLOGY

## 1. History and Introduction



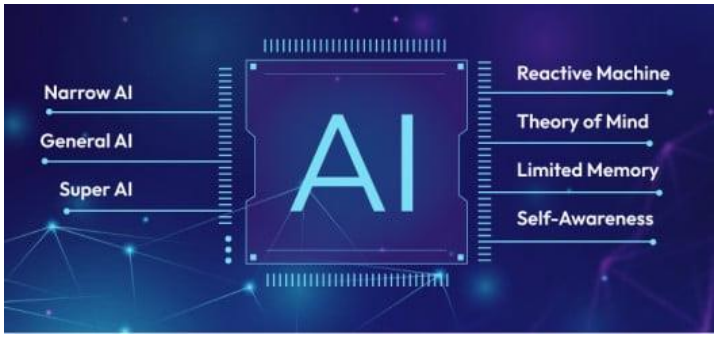
Artificial Intelligence is the process of making machines think like human intelligence. The term AI was first used in the "Dartmouth Conference" in 1956. Since then, it has developed in various stages.

## 2. Basic Principles of Artificial Intelligence

The basic principles of AI are,

- Data, Learning, Problem Solving, Decision Making, Memory

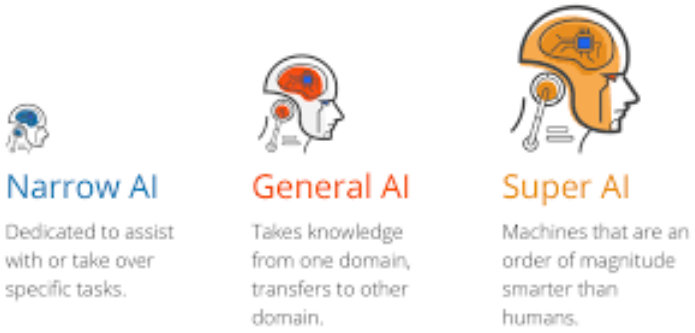
## 3. Types of AI:



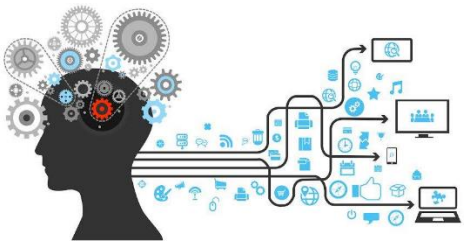
1.Narrow AI

2General AI

3.Super AI



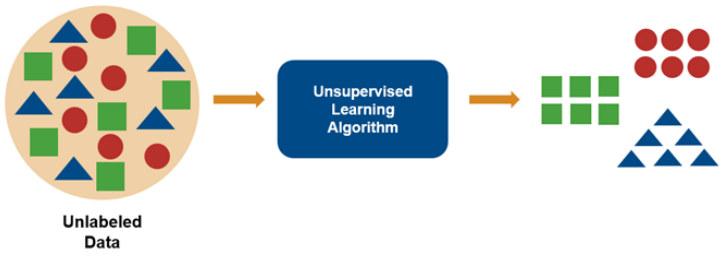

## 4. Machine Learning (ML):



This is a branch of AI. The computer learns automatically with the required data.

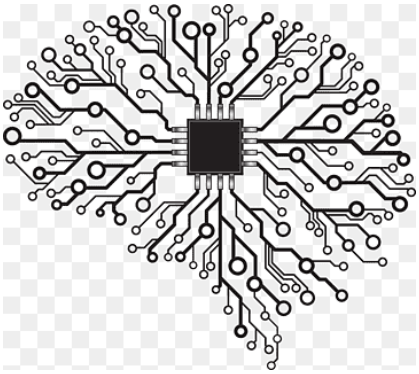
### a) Supervised Learning


### b) Unsupervised Learning



c) Reinforcement Learning

## 5. Deep Learning (DL):



A sub-field of ML. It works based on Neural Networks.

## 6. Natural Language Processing (NLP):

The ability to understand and respond to human language.

For example: *Google Assistant, ChatGPT*.

## 7. Video and Audio Based AI:

These include Speech Recognition, Voice Assistants, Face Detection, Video Analytics, etc.

## 8. AI Applications in Industry:

It is used in many fields including manufacturing, banking, customer service, accounting, security, and marketing.

## 9. AI in Medicine:

It plays an important role in disease diagnosis, treatment recommendation, and medical image analysis.

## 10. Education and AI:

It is also used in personalized learning, test preparation, and student performance monitoring.

## 11. Business and Mobile Applications:

AI-based financial advice, chatbots, e-commerce recommendations, and mobile apps improve customer experience.

## 12. Automated Vehicles:

Self-driving cars, drones, etc. are powered by AI. Sensors, cameras, and path planning are used.

## 13. Artificial Intelligence and Robotics:


AI helps robots understand their environment and act accordingly. It is very useful in fields like factories, medicine, and cleaning.

## 14. AI Research Institutes and Achievements:

Institutions like OpenAI, DeepMind, IBM Watson, Google AI are playing a major role. Their major achievements are GPT, AlphaGo, Watson etc.

## 15. AI-related ethics and laws:

Data protection laws, ethics, and usage norms are currently being developed.

## 16. Challenges arising from AI:

a) Job displacement in technology
b) Data security
c) Bias & Ethical Issues
d) Danger of changing human identity

**Future career opportunities:**


There are more opportunities in the professions of AI Engineer, Data Scientist, ML Developer, AI Researcher, Robotics Engineer, NLP Specialist.

## 17. Future of AI:

Further improvements in intelligence, possibility of Super AI, increasing human-machine collaboration.

## 18. Conclusion:

AI is emerging as a major revolution. While the benefits are numerous, it is essential to manage it well and use it ethically.

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# Cyber crime

## 1. Introduction

Cyber crime refers to criminal activities carried out through the internet using information technology. In this era of increasing internet usage around the world, crimes related to it are increasing. This article examines the definitions of cyber crimes and ways to prevent them.

## 2. Development of the cyber world

Internet usage grew significantly in the 1990s. Information exchange became easier through platforms like WhatsApp, Facebook, and Google. At the same time, criminals who misuse this information also emerged.

## 3. Main types of cyber crimes

1. Hacking – unauthorized entry into a personal computer or network.

2. Phishing – stealing bank account information through fake websites.

3. Ransomware – locks a computer and can only be unlocked by paying a ransom.

4. Cyberbullying – intimidating someone online.

## 4. Cybercrimes on social media


Creating fake accounts, posting personal photos Misuse of passwords, and spreading of personal information are common.

## 5. Financial crimes

Online banking fraud, theft of credit/debit card details, etc. are included in this section. These often affect the privacy of individuals.

## 6. Impact on children

Children are subjected to psychological distress due to dangerous messages from unknown sources. This is a way of cyber bullying.

## 7. Challenges to national security


Sometimes government websites are hacked and this poses a huge security problem.

## 8. Law and Security

Electronic Transactions **Act** No. 19 of 2006, sets the legal basis for dealing with these in Sri Lanka

## 9. Cyber Police and Investigation System

Cyber cells and investigation teams use various methods to prevent crimes.

## 10. Need for Awareness

People, especially students, should be aware of the security of internet usage.

## 11. Security Techniques

Strong passwords, two-factor authentication, and security software are important.

## 12. Role of Artificial Intelligence

AI technology can automatically detect cybercrimes in the internet. This will be a key tool for security in the future.

## 13. Privacy Challenges

Although user data is not secure, many companies use it for commercial purposes.

## 14. Parental and School-Level Monitoring

Parents should pay attention to the way their children use the internet.

## 15. Future Challenges

With the development of technologies such as 5G, IoT, and machine learning, there is a possibility of new types of cybercrimes emerging.

## 16. Solutions and Recommendations

Law amendments, cyber security training for the public, and raising the security posture in organizations are recommended.

## 17. Conclusion

Although it is not possible to completely prevent cybercrime, if everyone uses the Internet safely, the problems can be reduced. "*Precaution is better than curing*"

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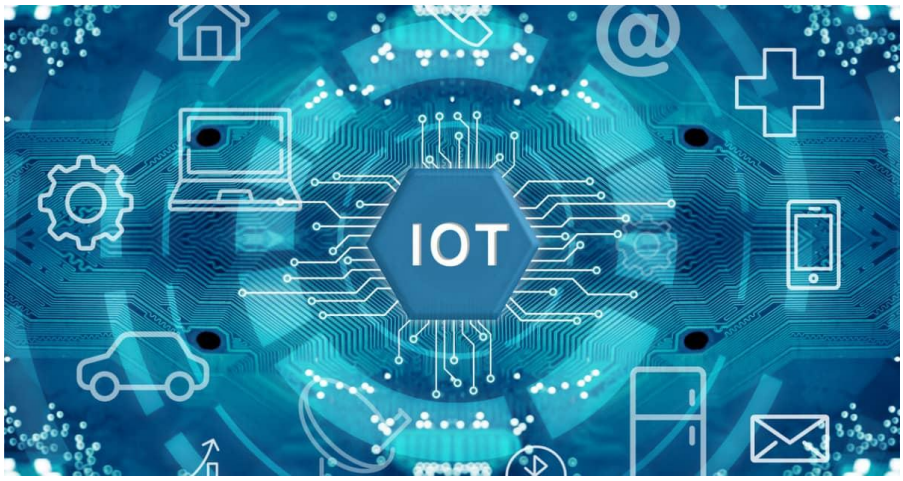
# INTERNET OF THINGS (IOT)

## 1. Introduction




The modern world is traveling at the peak of technology. In this journey, the role of the Internet is very important. As an evolution of it, a new technology called the Internet of Things (IoT) has emerged. This refers to devices and objects automatically sharing information and operating via the Internet. It is changing the human life in many aspects.

## 2. What is the Internet of Things?

The Internet of Things is a system in which devices connected to the Internet share information with each other. Devices—such as sensors, cameras, hardware, and software—collect information generated by the environment and share it via the Internet. This creates a unique decentralized structure.

## 3. History and Development of IoT

The concept of IoT was first used in 1999. But its foundation was laid in the 1980s. Initially, fiber optics and smart cameras were used to monitor crematoriums. Today, smart devices, intelligence, and cloud storage technologies are rapidly developing this sector.

## 4. How IoT works

The IoT process consists of four main stages:

1. Data Collection
2. Transmission
3. Processing
4. Action Based on Data

All these processes are designed to be automated.

## 5. Key IoT Components

The key components of IoT are:

2. Sensors
3. Network architecture
4. Information analysis tools
5. Process control systems

All these together form a complete technological complex.

## 6. Systems and Devices

IoT devices come in many forms: they can be categorized as simple home appliances, technological robots, weathering devices, and green production monitoring devices. Each device is designed to provide a better service.

## 7. Connectivity Technologies

IoT devices use several technologies to communicate with each other:

Wi-Fi

Bluetooth

Zigbee

Cellular (4G, 5G)

LoRaWAN

These technologies help in sending information quickly and securely.

## 8. Intelligent Devices and Sensors

Sensors are small devices that sense environmental changes. Temperature, light, noise, humidity, etc. are monitored by these sensors. These are the basic tools for making devices “intelligent”.

## 9. Big Data and IoT

IoT devices generate a large amount of data. By analyzing this Big Data in a sophisticated way, it is possible to make consistent decisions. It improves the ability to generate useful information.

## 10. Cloud computing and its role

Cloud storage is a method of storing data over the internet. The data received by IoT devices is stored on cloud platforms. This provides the facility to access the data anywhere.

## 11. Complex applications and methods

Complex applications include Smart City projects, sophisticated traffic controls, cyclical production monitoring, etc. All of these operate through automated performance.

## 12. IoT in agriculture

In agriculture, IoT plays a major role in guiding farmers by monitoring groundwater levels, temperature, sowing time, and pest infestation through sensors.

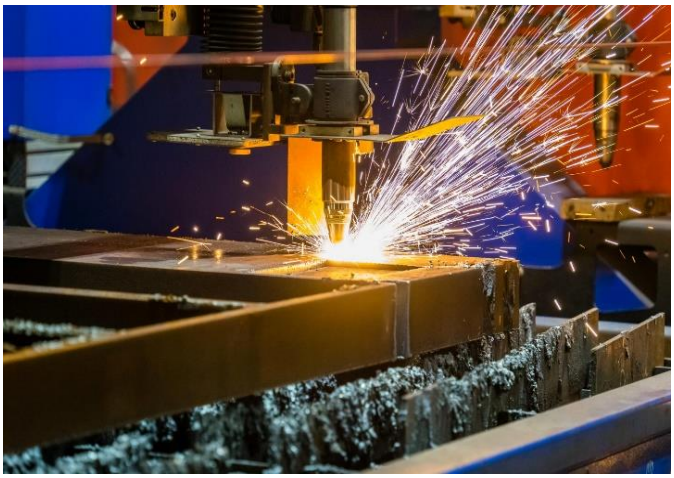
## 13. IoT in the medical sector

IoT is used to continuously monitor medical devices and the patient's physical condition. This allows immediate action to be taken in emergencies.

## 14. Applications in industries

In industries, IoT helps machines to operate automatically and reduce repair time. This increases production efficiency.

## 15. IoT in Home Devices



IoT is changing the way home lights, fans, and security systems can be controlled through mobile apps. This provides a healthy and balanced life.

## 16. Security and Privacy


As IoT devices continuously exchange information, security becomes a key aspect. How personal data is protected is one of the main challenges of IoT.

## 17. Challenges and Disadvantages

IoT devices face challenges such as low buffering, security issues, data protection, and high costs. But technological advancements are trying to solve all these.

## 18. Role of Scientists and Companies

Large companies like Microsoft, Google, SysCo, IBM are playing a major role in the development of IoT. Similarly, many Indian companies are also developing their achievements in this field.

## 19. Future Visions and New Initiatives

In the future, Smart Homes, Smart Cities, Autonomous Vehicles, etc. are expected to grow tremendously through IoT. It is believed that these will transform and transform the way of life.

## 20. Conclusion

IoT is a revolutionary technology. It can be believed that it will change the future as it works in a way that simplifies the exchange of information automatically

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# CRYPTOCURRENCY

## 1. Introduction


Cryptocurrency is a major revolution in the creation of modern currencies over time. It has developed as an alternative currency based on computer calculations, contrary to the laws of nature.

## 2. What is cryptocurrency?

"Crypto" means secret language. "Currency" is money. The combination of these two forms a cryptocurrency, which is a digital currency. It operates without the control of central government or a bank.

## 3. History of Cryptocurrency

In 2009, a person (or group) named Satoshi Nakamoto introduced the first cryptocurrency called Bitcoin. After that, many other cryptocurrencies such as Ethereum, Litecoin, and Ripple came.

## 4. The technical basis of cryptocurrency

It is based on Blockchain technology. Blockchain acts as a shared accounting book.

## 5. How does blockchain work?

Each transaction is formed into a block and linked to the previous block like a chain. This ensures security and immutability.

## 6. Types of cryptocurrency


Bitcoin, Ethereum, Dogecoin, Binance Coin, Cardano, etc. are important cryptocurrencies. Each offers unique applications.

## 7. Cryptocurrency Calculation Method – Mining


Mining is the process of creating new cryptocurrencies through electronic calculations. It uses the work of multiple computer networks.

## 8. Investing in Crypto

Many people see cryptocurrency as an investment opportunity. Therefore, investments are made considering changing prices, market stagnation, etc.

## 9. Advantages of Crypto

1. Operationality without central control
2. Speed and ease of exchange
3. Global accessibility
4. Low exchange fees

## 10. Risks of Crypto

1. Price instability
2. Risk of hacking
3. Variation of legal restrictions
4. Possibility of fraud

## 11. Status of Crypto in the world

The United States, Japan, Canada, and Germany are in a position to accept crypto. Some countries like China have imposed restrictions.

## 12. Crypto in the future

Experts believe that crypto currencies will play an important role in the economy of tomorrow. New initiatives such as CBDC (Central Bank Digital Currency) have also been launched.

## 13. Crypto and Digital Money


An explanation of the differences between cryptocurrency and government-issued digital currencies (CBDC), and their impact.

## 14. Crypto Scams


There are various crypto scams that are taking place due to investing in crypto without public awareness. This requires the intervention of law.

## 15. Crypto – Cashless Society

A section that examines how cryptocurrencies will play a role as the world of tomorrow becomes cashless

## 16. Social Impacts of Crypto

It discusses the impacts on the stock market, banking sector, industries and retail trade.

## 17. Crypto Education and Awareness


The need to create proper education and awareness about crypto among the youth.

## 18. Conclusion

Cryptocurrency is the force that creates a new world of exchange. It presents us with challenges and opportunities at the same time. It is time to move forward with recommendations.

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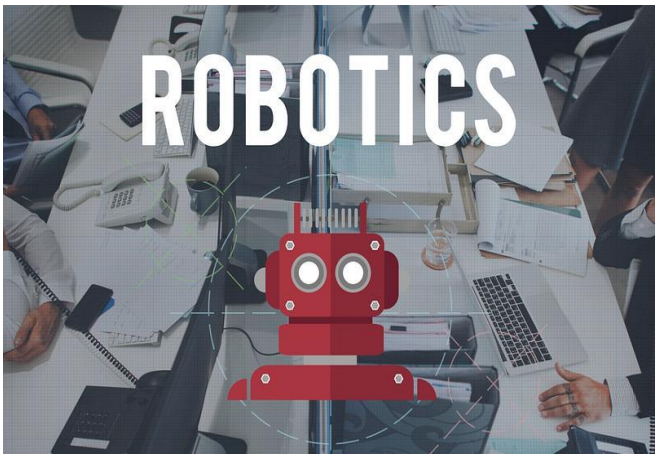
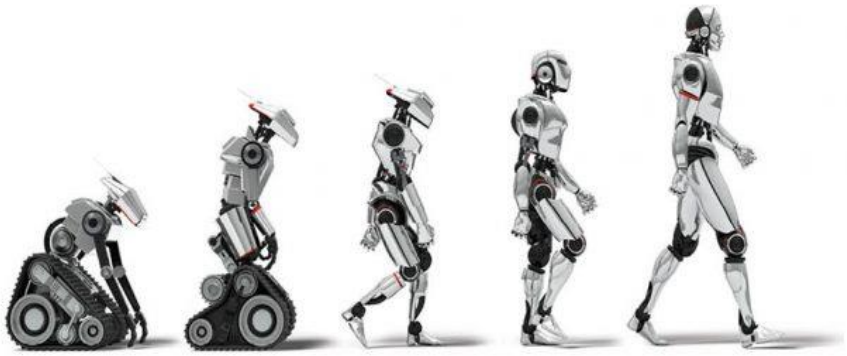
# Robotics

## 1. Introduction to Robotics




- Robotics is a field located at the intersection of **mechanical engineering, electrical engineering,** and **computer science**.
- It involves the study and operation of autonomous devices called robots.
- The field of robotics encompasses a variety of activities. For example, automation tasks in industrial sectors, surgical assistance in the medical field, monitoring and search-and-find tasks, and many more.
- The important components of robots are sensors, actuators, and controllers. Sensors can sense the environment, actuators can act, and controllers can control actions.
- Over time, the field of robotics has advanced rapidly and has been further enhanced by the use of computers and artificial intelligence (AI). Thus, the field of robotics has the potential to achieve great growth in the future.

## 2. History of Robotics



- The history of robotics is a journey that spans centuries. Let us briefly review its main points:

### 1. Ancient Times

• Ancient Greek and Chinese myths tell of automated devices and metaphors.

• In the 3rd century BC, the Greek mathematician Archimedes and many other scholars are known to have created automated devices.

### 2. Middle Ages

• In 1206, the Muslim scholar **Al-Jazari** described several automated devices in his book "The Book of Knowledge of Ingenious Mechanical Devices".

• **Leonardo da Vinci** (1452-1519) created prototypes of robots, the most famous of which was the robot dog.

### 3. Industrial Revolution

• In the 18th and 19th centuries, the Industrial Revolution greatly advanced automation devices and mechanical tools.

### 4. 20th Century

• In 1921, Czech writer **Karel Sapek** first used the word "robot" in his play "Rosem Universal Robots".

• In 1950, **Isaac Asimov** introduced the "Three Laws of Robotics".

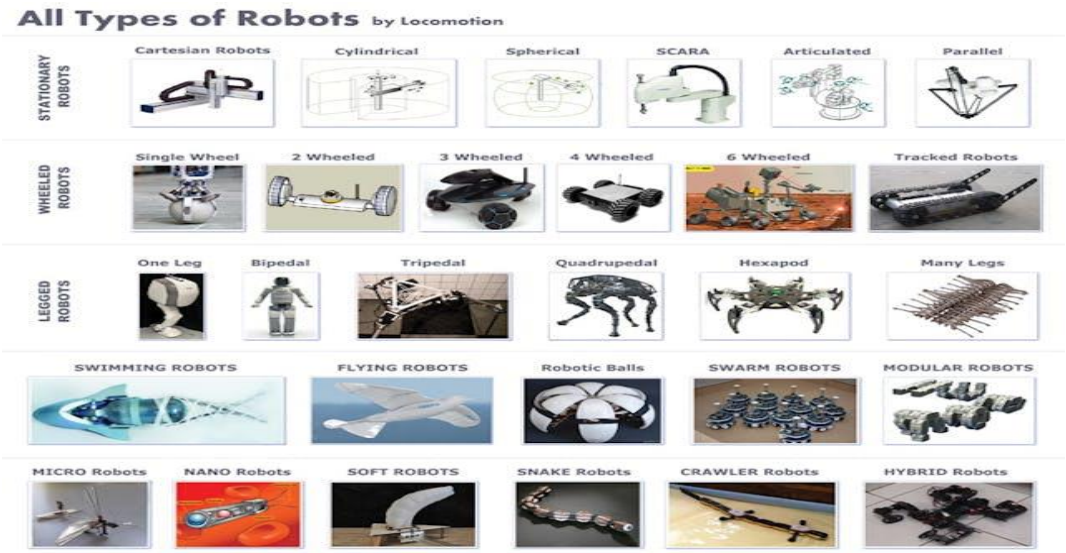
• In 1956, **George Devol** and **Josef Engelberg** created the world's first industrial robot, the Unimat.

### 5. Present

• The field of robotics is growing rapidly. The use of robots has expanded in many fields, including industry, medicine, controllers, autonomous vehicles, robot assistants, and more.

• With the help of artificial intelligence (AI) and machine learning technologies, the capabilities of robots have been further improved. Thus, the field of robotics has gone through various stages and today plays a very important role in technological progress.

## 3. Types of Robots




Robots are classified into several types, based on their applications, design, performance, and control method.

Here are some important types of robots:

## 1. Industrial Robots

- Used in industrial automation tasks.

  Example: *Welding robots, bike assembly robots*.

## 2. Service and Domestic Robots

- Used in household tasks, professional services.

  Example: ***Roomba*** *is a successful robot vacuum.*

## 3. Medical Robots

- Robots that assist in medicine, surgical assistance, rehabilitation.

  Example: *Da Vinci Surgical System*.

## 4. Mobile Robots

- Robots that can travel, operate on their own or under remote control.

Example: *AGV (Automated Guided Vehicles), Inspection Robots*.

## 5. Humanoid Robots

• Robots that model humanoid appearance and actions.

Example: *ASIMO, Sophia.*

## 6. Collaborative Robots or 'Cobots'

• Designed to work with humans.

Example: *Universal Robots.*

## 7. Drones

• Robots that fly in the air, usually in surveillance, photography, and transportation applications.

Example: *DJI Phantom.*

## 8. Micro and Nano Robots

• Robots designed on a very small scale, used in medical applications and research.

Example: *Nano medical robots.*

## 9. Swarm Robots

• A technology in which many small robots work together.

Example: *Surveillance and search and rescue missions.*

➢ Their characteristics, functions and applications reveal the broad manifestations of the field of robotics.

## 4. Robotics Predictions

Here are some important predictions and forward-looking views on the development and future of the robotics industry

### 1. Industrial Automation

• The use of industrial automation robots can increase greatly. This will improve productivity, quality and service time.

• Robots will often replace humans in difficult and repetitive tasks

### 2. Service Robots


• The use of robots in household and personal services, especially in tasks such as cleaning, security and personal assistance, will increase.

• High-tech robots, with the help of artificial intelligence, will become more efficient.

## 3. Medical Robots

• The use of surgical robots and rehabilitation robots will further expand.

• Micro-robots and nano-robots can be used in medicine, especially in diagnostic and therapeutic procedures.

## 4. Mobile and humanoid robots

• The use of autonomous vehicles and telepresence robots will increase. These will reduce operating costs and increase reliability.

• Humanoid robots will help in various fields as they gain the ability to perform human-like tasks.

## 5. Collaborative Robots (Cobots)

• The demand for robots that work alongside humans will increase, especially in central and small factories.

• Human-robot collaboration will increase operational efficiency and safety.

### 6. Artificial Intelligence and Machine Learning

• The development of AI and Machine Learning (ML) technologies will improve the performance, automation and cognitive functions of robots.

• Robots can perform more than basic tasks, recognizing the specific situation.

### 7. Job opportunities and technological changes

• Robotics and automation technologies will cause changes in jobs. As industries change, more jobs will be created in the areas of intelligence, control and development of robotics.

### 8. Environmental development

• The use of robots in environmental protection and green technology will increase. The role that robots play in green technology will be important.

• As the field of robotics continues to grow, its predictions and future perspectives will see great evolution.

## 5. Robotics Applications


- Robotics has more applications and is being designed, and is used in various fields adjacent to it. Here are some of the major robotic applications

## Technology and Automation

• Functionality for self-motivated individual work: Technology automation robots make it difficult for humans to replace them.

• Industrial tasks: Robots can perform tasks that humans cannot do, and that can be done by making small changes.

**There are many processes in robotics technology, including:**

### 1. Industrial Automation

• Private sector litigation: Robots will increase their use in private sector litigation, providing rewards for their help.

• Private litigation: Robots can assist private litigation for those who want to serve in knowledge-based tasks.

### 2. Legal services

• Private courts: In the event of litigation, robots can use appropriate conditions.

• Translation and order markets: Experienced private courts can handle order markets and destruction.

### 3. Infrastructure Changes

• Leading and High-Technology Changes: Robots will gain high-tech skills, and the infrastructure will grow.

• Job Opportunities: Technological changes in the infrastructure will create many opportunities by protecting them.

• These factors will help in the advancement and improvement of robotics technology.

**Robotics challenges come in many forms. They are listed below:**

### 1. Security and Attack

• Non-Skilled: Robots become security guards and society becomes a problem when security guards increase.

• Attack and Personal Security: Robots replace humans and security incidents may occur.

### 2. Industrial Pipeline and Manipulation

• When security guards are protected: Robots cannot be protected by technology pipelines.

• Technology and High-Tech Field: Robots cannot be effectively managed in high-tech fields.

### 3. Other Technology Fields

• Technology Fluctuations: Fluctuations and problems in technology and business intelligence will be troubling.

• Demand and High-Tech Fields: Robots are being set up as a demand and high-tech field.

➢ Robotics technology is considered to be a technology that gives rise to the acquisition and improvement of technology.

## 6. Objections on robotics

## 1. Security and attack

• Non-professionals: Robots become security agents and society becomes a technology problem when security agents increase.

• Attack and personal safety: Robots replace humans, and attacks or security incidents may occur.

## 2. Industrial pipeline and coercion

• When security agents are protected: Robots cannot be protected by technical pipelines.

• Technology and high-tech fields: Robots cannot be strongly controlled in high-tech fields.

## 3. Other technical fields

• Technological drift: Technological drift and problems in technical and industrial intelligence will be troublesome.

• Demand and high-tech fields: Robots are required and are set up in high-tech fields

- These characteristics give rise to the acquisition and improvement of technology.

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