

**WALL**



**MAGAZINE**

**2022-23**



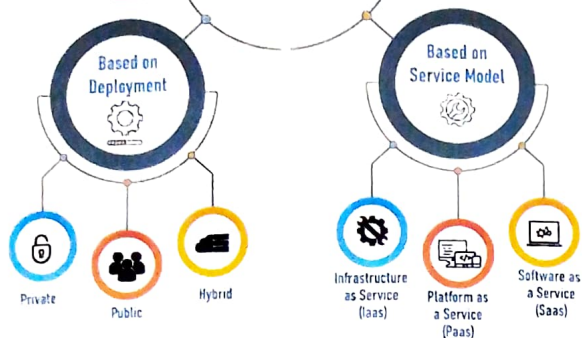
**DEPT.**

**COMPUTER SC.**

**SIR GURUDAS**

**MAHAVIDYALAYA**

## TYPES OF CLOUD COMPUTING



## How Cloud Computing Works

Cloud computing allows users to access and store data and applications over the internet instead of on local servers or personal computers. Here's a simplified overview of the process:



- 1. Virtualization:** Cloud computing uses virtualization technology to create virtual machines that simulate physical computers. This allows multiple virtual machines to run on a single physical server.
- 2. Data Centers:** Cloud providers maintain large data centers with powerful servers that host these virtual machines. These data centers are equipped with the necessary infrastructure to ensure security, storage capacity, and computing power.
- 3. Internet Connectivity:** Users connect to the cloud via the internet. This connection allows them to access cloud services and resources from anywhere, using any device with internet access.
- 4. Service Models:** Cloud computing offers different service models:
  - **Infrastructure as a Service (IaaS):** Provides virtualized computing resources over the internet.
  - **Platform as a Service (PaaS):** Offers a platform allowing customers to develop, run, and manage applications.
  - **Software as a Service (SaaS):** Delivers software applications over the internet on a subscription basis.
- 5. Scalability and Flexibility:** Cloud computing allows for easy scaling of resources based on demand. Users can increase or decrease their usage without the need for physical hardware changes.
- 6. Pay-as-You-Go:** Users only pay for the resources they use, making it cost-effective and efficient.



## TYPES OF VIRUS

### Resident Viruses:

- Infect programs that are currently executing.
- Propagate by attaching themselves to other programs as they open.

### 2. Non-Resident Viruses:

- Infect any executable code, even if it isn't currently running.
- Can spread to other files.

### 3. Boot Sector Viruses:

- Infect the boot sector of a computer's startup disk.
- Execute before the operating system fully loads.

### 4. Macro Viruses:

- Infect Office or PDF files.
- Exploit macros to spread.

### 5. Polymorphic Viruses:

- Change their code to evade detection.
- Difficult to identify and remove.

### 6. Web Scripting Viruses:

- Execute within web browsers.
- Exploit vulnerabilities in web pages.

### 7. Multipartite Viruses:

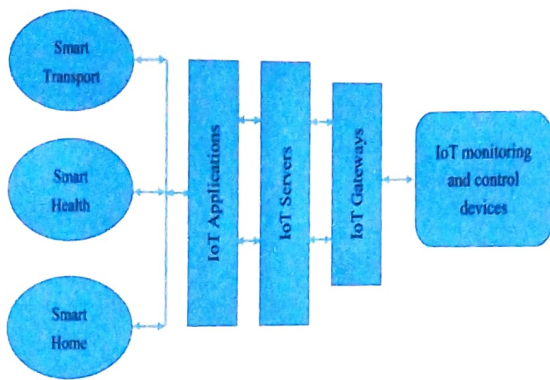
- Combine features of other virus types.
- Spread through multiple methods.

### 8. Droppers:

- Deliver other malware onto the system.
- Often disguised as legitimate files.

### 9. Beacon/Payload Viruses:

- Send signals to a remote server.
- Await further instructions.



## ARCHITECTURE OF IOT.

## How IoT Works

The Internet of Things (IoT) connects physical devices to the internet, enabling them to collect, share, and act on data. Here's a simplified overview of the IoT working process:

1. **Sensors/Devices:** IoT devices are equipped with sensors that collect data from their environment. These sensors can monitor various parameters like temperature, motion, light, and more.
2. **Connectivity:** The collected data is transmitted to the cloud or a central server through various connectivity options such as Wi-Fi, Bluetooth, cellular networks, or other communication protocols.
3. **Data Processing:** Once the data reaches the cloud, it is processed by software applications. This step involves analyzing the data to extract meaningful insights.
4. **User Interface:** The processed data is then presented to users through applications or dashboards. Users can monitor and control the devices remotely via these interfaces.
5. **Action:** Based on the insights gained, actions can be taken automatically or manually. For example, a smart thermostat can adjust the temperature based on user preferences or environmental conditions.



## How ChatGPT Works with API

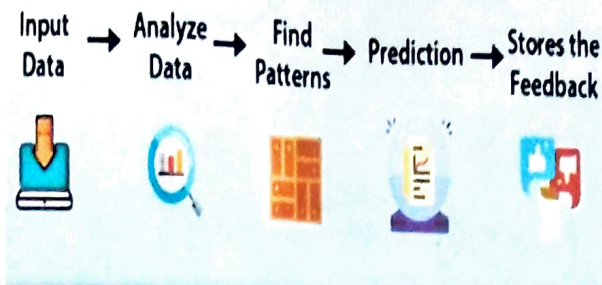
**ChatGPT** is a conversational AI model developed by OpenAI. It can be integrated into applications using the **ChatGPT API**. Here's a simplified overview of how it works:

1. **API Request:** An application sends a request to the ChatGPT API with a prompt or query.
2. **Processing:** The API processes the input using the ChatGPT model, which generates a response based on the input.
3. **API Response:** The generated response is sent back to the application.
4. **Integration:** The application uses the response to interact with users, automate tasks, or provide information.

*ChatGPT has a wide range of capabilities, including:*

- **Conversational AI:** Engaging in natural language conversations.
- **Content Generation:** Creating text for articles, emails, reports, and more.
- **Customer Support:** Automating responses to common customer queries.
- **Language Translation:** Translating text between different languages.
- **Code Assistance:** Helping with coding tasks and debugging.
- **Educational Support:** Providing explanations and tutoring on various subjects.

# How does Machine Learning Work?



## “Machine Learning process”

1. **Data Collection:** Gathering relevant data from various sources.
2. **Data Pre-processing:** Cleaning and organizing the data for analysis.
3. **Model Selection:** Choosing the appropriate algorithm for the task.
4. **Training:** Feeding the data into the model to learn patterns.
5. **Evaluation:** Assessing the model's performance using test data.
6. **Tuning:** Adjusting parameters to improve accuracy.
7. **Deployment:** Implementing the model in a real-world scenario.
8. **Monitoring:** Continuously checking the model's performance and making necessary updates.



## How to Learn 21st Century Skills and Tools

Learning 21st-century skills is essential for success in today's rapidly changing world. Here are some strategies to help you develop these skills:

1. **Critical Thinking and Problem Solving:**
  - o **Engage in Puzzles and Games:** Activities like chess, Sudoku, and logic puzzles can enhance your critical thinking abilities.
  - o **Analyze Case Studies:** Study real-world problems and their solutions to improve your problem-solving skills.
2. **Communication and Collaboration:**
  - o **Join Clubs and Groups:** Participate in clubs, study groups, or online forums to practice communication and teamwork.
  - o **Public Speaking:** Take part in public speaking or debate clubs to enhance your verbal communication skills.
3. **Creativity and Innovation:**
  - o **Explore Arts and Crafts:** Engage in creative activities like painting, writing, or music to stimulate your imagination.
  - o **Brainstorming Sessions:** Regularly participate in brainstorming sessions to generate new ideas and solutions.
4. **Digital Literacy and Technology Skills:**
  - o **Online Courses:** Enroll in online courses on platforms like Coursera, Udemy, or Khan Academy to learn about digital tools and technologies.
  - o **Hands-on Practice:** Experiment with different software, coding, and digital tools to gain practical experience.
5. **Information Literacy:**
  - o **Research Projects:** Conduct research on various topics to improve your ability to find, evaluate, and use information effectively.
  - o **Library Resources:** Utilize library resources and databases to access reliable information.
6. **Life and Career Skills:**
  - o **Time Management:** Use tools like calendars, planners, and apps to manage your time effectively.
  - o **Leadership Opportunities:** Take on leadership roles in projects, clubs, or volunteer organizations to develop leadership skills.
7. **Global Awareness and Social Responsibility:**
  - o **Cultural Exchange Programs:** Participate in cultural exchange programs or travel to gain a broader perspective.
  - o **Community Service:** Engage in community service projects to understand and address social issues.
8. **Continuous Learning:**
  - o **Stay Updated:** Keep up with the latest trends and advancements in your field by reading articles, attending webinars, and joining professional networks.
  - o **Reflect and Adapt:** Regularly reflect on your learning experiences and adapt your strategies to improve continuously.