

A Project Report: Topic On:Artificial Intelligence Used In Daily Life.

**Design And Developed By :Akash Vilas Ranpise (87)
Submitted to: Manjusha mam.**

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**Company name- Angel Infotech Groups.
Chh. Sambhajinagar.**

Company Profile:

Organization Name: Angel Infotech Groups Chh. Sambhajinagar

Location of Organization : Angel Infotech, E-4 Disha Alankar opposite Hotel VIP Maratha CIDCO Cannought, Cidco, Aurangabad, Maharashtra, India: 431003

About Organization:

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Project Ajenda

Agenda:-

- **Introduction**
- **Importance of Artificial Intelligence**
- **Fundamentals of AI**
- **Machine Learning (ML) & Deep Learning (DL)**
- **AI uses In the Medical Fields**
- **Computer Vision & Image Processing**
- **AI in Robotics**
- **Natural Language Processing (NLP)**
- **Advantages & Disadvantages Of AI**

Introduction

What is Artificial Intelligence?

- Artificial Intelligence (AI) is a branch of computer science that focuses on creating machines capable of mimicking human intelligence. AI enables systems to learn, reason, problem-solve, perceive, and even make decisions.

Artificial Intelligence refers to the simulation of human intelligence in machines, enabling them to perform tasks that typically require human cognition, such as learning, reasoning, problem-solving, and decision-making.

Types of AI

- 1. Weak AI (Narrow AI)** : Specialized AI that performs a single task (e.g., Siri, Google Assistant).
- 2. Strong AI (General AI)** : AI with human-like intelligence, capable of reasoning and problem-solving in any field (not yet achieved).
- 3. Super AI** : Hypothetical AI surpassing human intelligence (future concept).

Applications of AI :

Healthcare: Diagnosis, drug discovery, robotic surgeries.

Finance: Fraud detection, automated trading, credit scoring.

Education: AI tutors, personalized learning.

Entertainment: AI-generated music, deepfake videos

Machine Learning

Machine Learning (ML) is a subset of Artificial Intelligence (AI) that enables computers to learn from data and make decisions or predictions without being explicitly programmed. Instead of following strict rules, ML models identify patterns and improve their performance as they process more data.

Why is Machine Learning Important?

- Automates complex decision-making processes
 - Improves efficiency and accuracy in various applications
 - Enhances data-driven decision-making across industries
 - Enables advancements in AI-driven technologies like NLP, Computer Vision, and Robotics
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Benefits of ML

1. Automation of Tasks

- Reduces the need for human intervention in repetitive tasks.

Improved Decision-Making

- Analyzes large datasets quickly to provide data-driven insights.

Personalization

- Enhances user experience by tailoring recommendations (e.g., Netflix, Spotify, Amazon).

Fraud Detection & Security

- Identifies anomalies in financial transactions to prevent fraud.

AI uses in medical field

1. Medical Diagnosis

- AI-powered tools like IBM Watson and Google's DeepMind help detect diseases such as cancer, Alzheimer's, and heart conditions earlier and more accurately.
- Image recognition AI assists in analyzing X-rays, MRIs, and CT scans.

2. Drug Discovery & Development

- AI accelerates the discovery of new drugs by analyzing biological data and predicting potential drug candidates.
- Reduces the time and cost of clinical trials.

3. Personalized Treatment Plans

- AI tailors treatments based on a patient's genetics, medical history, and lifestyle.
- Helps in precision medicine, ensuring better treatment outcomes.

4. Robotic Surgery

- AI-assisted robots (e.g., Da Vinci Surgical System) perform complex surgeries with higher precision and less risk.
- Minimally invasive procedures reduce recovery time for patients.

5. Virtual Health Assistants & Chatbots

- AI chatbots provide 24/7 medical advice and symptom analysis.
- Virtual assistants like IBM Watson and Ada help patients manage chronic diseases.

6. Predictive Analytics in Healthcare

- AI predicts disease outbreaks by analyzing data from social media, health records, and environmental factors.
- Helps hospitals predict patient admission rates and manage resources efficiently.

7. Electronic Health Records (EHR) Management

- AI automates data entry and management, reducing human errors.
- Improves record retrieval, making patient history easily accessible to doctors.

8. Cancer Detection & Treatment

- AI models, such as Google's DeepMind, analyze pathology slides with high accuracy.
- AI helps in radiation therapy by precisely targeting tumors.

9. Hospital & Workflow Management

- AI optimizes appointment scheduling, reducing patient wait times.
- Helps in staff allocation and hospital resource management.

AI in Robotics

1. Industrial Automation

- AI-driven robots streamline manufacturing processes in industries like automotive, electronics, and pharmaceuticals.

Healthcare & Medical Robotics

- AI-powered surgical robots (e.g., **Da Vinci Surgical System**) perform minimally invasive surgeries with high precision.

3. Autonomous Vehicles

- AI helps self-driving cars (e.g., **Tesla Autopilot**) navigate roads, detect obstacles, and make real-time decisions.

4. Service Robots

- AI-powered humanoid robots (e.g., **Pepper, Sophia**) assist in customer service, hospitality, and caregiving.

5. Military & Defense Applications

- AI-driven robots perform reconnaissance, surveillance, and bomb disposal.

6. Agriculture & Farming

- AI-enabled robots automate planting, watering, and harvesting crops.
- Drones with AI analyze soil health, detect pests, and optimize resource usage.

7. Search & Rescue Operations

- AI robots assist in disaster-struck areas, locating survivors and delivering supplies.
- Drones and ground robots navigate hazardous environments where humans cannot go.

Advantages & Disadvantage

Advantages Of AI :-

1. **Automation of Tasks:** AI can perform repetitive and time-consuming tasks without human intervention.
2. **Accuracy and Precision:** AI-driven systems minimize human errors in tasks like medical diagnosis, financial predictions, and data analysis.
3. **Faster Decision-Making:** Helps in quick decision-making in areas like finance (stock market analysis), healthcare (diagnosis), and security (fraud detection).
4. **24/7 Availability:** Unlike humans, AI does not require rest and can operate continuously.
5. **Risk Reduction in Hazardous Jobs :** AI-powered robots can work in dangerous environments, such as mining, deep-sea exploration, and disaster recovery.

Disdvantages Of AI :-

1. **High Implementation Costs:** Developing and maintaining AI systems requires significant investment.
2. **Job Loss & Unemployment:** AI automation replaces repetitive and manual jobs, leading to workforce displacement.
3. **Lack of Human Creativity & Emotions:** Tasks requiring human intuition, ethical judgment, and personal connections cannot be fully replaced by AI.
4. **Data Privacy & Security Risks:** AI systems rely on massive amounts of data, raising concerns about privacy breaches and data misuse.

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