Introduction to AI

- AI stands for Artificial Intelligence.

- It refers to the field of computer science and engineering that focuses on creating machines and software that can perform tasks that would normally require human intelligence to complete.

- AI is built around the idea of creating intelligent agents that can perceive their environment, reason about it, and take actions to achieve specific goals.

- **Classification:** AI can be divided into two main categories:
    - ➔ narrow or weak AI and
    - ➔ general or strong AI.
    - ➔ Narrow AI refers to systems that are designed to perform a specific task or set of tasks, such as speech recognition or image classification.
    - ➔ General AI, on the other hand, refers to systems that can perform any intellectual task that a human can.

- AI is a rapidly evolving field that is being used in a wide range of applications, including self-driving cars, voice assistants, medical diagnosis, and financial analysis, among others.

- **Practical Examples:**
    - ➔ Personal Assistants: Siri, Alexa, Google Assistant, and other voice assistants are examples of AI-powered personal assistants that use natural language processing to answer questions and perform tasks.
    - ➔ Image and Video Recognition: AI is used in image and video recognition applications such as facial recognition, license plate recognition, and object recognition.
    - ➔ Chatbots: AI-powered chatbots are being used in customer service and other industries to provide personalized assistance and support.

- ➔ Recommendation Systems: AI-powered recommendation systems are used by companies like Netflix, Amazon, and Spotify to suggest products or content to users based on their interests and preferences.

- ➔ Autonomous Vehicles: Self-driving cars and other autonomous vehicles use AI-powered sensors and algorithms to navigate roads and make decisions in real-time.

- ➔ Fraud Detection: AI is used in fraud detection and prevention by analyzing large amounts of data to identify suspicious patterns and transactions.

- ➔ Medical Diagnosis: AI-powered medical diagnosis systems use machine learning algorithms to analyze patient data and provide insights and recommendations to doctors.

- ➔ Predictive Maintenance: AI is used in predictive maintenance applications to analyze sensor data and predict when equipment is likely to fail, allowing for preventative maintenance like in aircraft propulsion systems.

- **AI related fields:**

  - ➔ Machine Learning

  - ➔ Natural Language Processing (NLP)

  - ➔ Computer Vision

  - ➔ Robotics

  - ➔ Big Data

  - ➔ Data Science

  - ➔ Human-Computer Interaction (HCI)