About AI

Artificial intelligence is the intelligence possessed and demonstrated by machines. AI is the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. AI can also be applied to any machine that displays the traits applied to human mind such as learning and problem solving. AI is the ability of the machines to perform certain tasks that require intelligence when done by humans and animals. A computer is said to have AI if it can think humanly, act humanly, think rationally and act rationally. The term AI was first coined by Marvin Minsky and John McCarthy in 1950s who are known as fathers of AI. AI is a large field which composes of machine learning and deep learning. The most common applications of AI are robots, voice assistants, chat bots, recommendation systems, prediction systems, classification systems, search engines, games etc.

Machine Learning

Machine learning is one of the most promising approaches to AI. It allows system to perform certain tasks by learning from past data instead of being explicitly programmed. In ML, A computer program is said to learn from experience E with respect to some class of tasks T and performance measure P if it performs tasks in T, as measured by P and improves with E. Components of Machine learning includes Data, model, learning and application.

Types of Machine Learning:

1) Supervised Machine Learning
   In supervised learning, you pass the samples containing the input features and their desired outputs to the machine learning model for training. The model then learns a mapping from the input features to the desired output. You aim to produce an accurate enough mapping so that the algorithm can predict the output as correctly as possible whenever a new test input is given. As the desired output passed during the training supervises the model to learn the required mapping, this learning method is called supervised learning

2) Unsupervised Machine Learning:
   As opposed to supervised learning, in unsupervised learning, you pass the samples containing only the input features to the machine learning model. The model then extracts different useful features and patterns from the data. As the desired output is no longer supervising the learning process, this learning method is called unsupervised learning.

3) Reinforcement Learning:
   Reinforcement Learning is the type of machine learning where the machine learns on its own using observations gathered from the interaction with its environment to take actions that would maximize the reward or minimize the risk.