

ARTIFICIAL INTELLIGENCE

PROFESSIONAL ELECTIVE-1

SUBJECT CODE- 19CSE303



UNIT-1

INTRODUCTION

What is Artificial Intelligence?

- One of the booming technologies of computer science is Artificial Intelligence.
- Simulation of human intelligence in m/c that are programmed to think like humans and mimic their actions.

(OR)

- is the capability of a m/c to imitate intelligent human behaviour.
- currently working with a variety of subfields, ranging from general to specific,
 - playing chess
 - proving theorems
 - playing music
 - Painting
 - Self driving cars

Cont...

- ▶ Artificial Intelligence is composed of two words **Artificial** and **Intelligence**
- ▶ Artificial defines "*man-made,*" and intelligence defines "*thinking power*", hence AI means "*a man-made thinking power.*"

So, we can define AI ,

- ▶ "It is a branch of computer science by which we can create intelligent machines which can behave like a human, think like humans, and able to make decisions."

Cont...

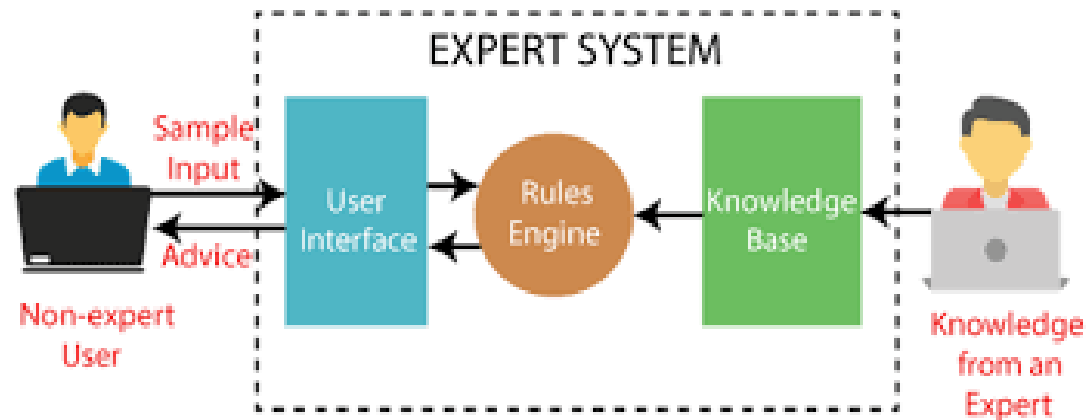
Why Artificial Intelligence?

- ▶ With the help of AI, one can create such software or devices which can solve real-world problems very easily and with accuracy such as health issues, marketing, traffic issues, etc.
- ▶ With the help of AI, you can create your personal virtual Assistant, such as Cortana, Google Assistant, Siri, etc.
- ▶ With the help of AI, you can build such Robots which can work in an environment where survival of humans can be at risk.
- ▶ Self driving cars need control signals as input . AI systems use Vehicles radar, cameras, apps and cloud services.

GOALS OF ARTIFICIAL INTELLIGENCE

- ▶ To create an EXPERT SYSTEM

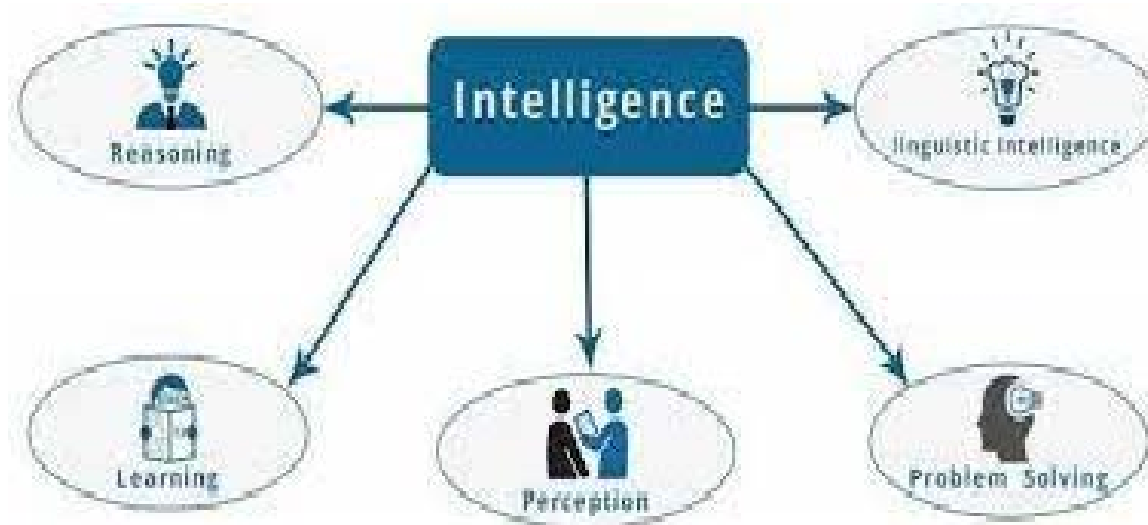
The system which exhibits intelligent behavior learn, demonstrate, explain, and advice its user



cont.

- To replicate human intelligence
- An intelligent connections of perceptions and actions
- Building a machine which can perform tasks that requires human intelligent
 - proving a theorem
 - playing chess
 - plan some surgical operations
 - driving a car in traffic

WHAT IS INTELLIGENCE COMPOSED OF?



Cont.

- ▶ Linguistic Intelligence:

The ability to speak, recognize, and use mechanisms of phonology (speech sounds), syntax (grammar), and semantics (meaning).

- ▶ Reasoning – It is the set of processes that enables us to provide basis for judgement, making decisions, and prediction.

- ▶ Learning – It is the activity of gaining knowledge or skill by studying, practising, being taught, or experiencing something. Learning enhances the awareness of the subjects of the study.

Cont.

- ▶ **Problem Solving** – It is the process in which one perceives and tries to arrive at a desired solution from a present situation by taking some path, which is blocked by known or unknown hurdles.
- ▶ **Perception** – It is the process of acquiring, interpreting, selecting, and organizing sensory information.
- ▶ Perception presumes **sensing**. In humans, perception is aided by sensory organs. In the domain of AI, perception mechanism puts the data acquired by the sensors together in a meaningful manner.