



**CHANDIGARH
UNIVERSITY**

Discover. Learn. Empower.

UNIVERSITY INSTITUTE OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGG.

Bachelor of Engineering (Computer Science & Engineering)

Principles of Artificial Intelligence (20CST-258)



Applications of AI

DISCOVER . LEARN . EMPOWER

INTRODUCTION

Course Outcome

CO Number	Title	Level
CO1	Artificial Intelligence History	Remember
CO1	Main Approaches To AI	Understand
CO1	Applications of AI	Understand



Outlines

- **Artificial Intelligence**
- **Applications of AI**

Artificial Intelligence

- According to the father of Artificial Intelligence, John McCarthy, it is “*The science and engineering of making intelligent machines, especially intelligent computer programs*”.
- Artificial Intelligence is a way of *making a computer, a computer-controlled robot, or a software think intelligently*, in the similar manner the intelligent humans think.
- The term "**artificial intelligence**" is used to describe machines that mimic "**cognitive**" functions that humans associate with other human minds, such as "**learning**" and "**problem solving**".

Applications of AI

Applications of AI



Artificial Intelligence in Healthcare

- Companies are applying machine learning to make better and faster diagnoses than humans. One of the best-known technologies is IBM's Watson.
- It understands natural language and can respond to questions asked of it. The system mines patient data and other available data sources to form a hypothesis, which it then presents with a confidence scoring schema.
- AI is a study realized to emulate human intelligence into computer technology that could assist both, the doctor and the patients in the following ways:
 - • By providing a laboratory for the examination, representation and cataloguing medical information
 - • By devising novel tool to support decision making and research
 - • By integrating activities in medical, software and cognitive sciences
 - • By offering a content rich discipline for the future scientific medical communities.

Artificial Intelligence in business

- Robotic process automation is being applied to highly repetitive tasks normally performed by humans. Machine learning algorithms are being integrated into analytics and CRM (Customer relationship management) platforms to uncover information on how to better serve customers. Chatbots have already been incorporated into websites and e companies to provide immediate service to customers. Automation of job positions has also become a talking point among academics and IT consultancies.

AI in education

- It automates grading, giving educators more time.
- It can also assess students and adapt to their needs, helping them work at their own pace.

AI in Autonomous vehicles

- Just like humans, self-driving cars need to have sensors to understand the world around them and a brain to collect, processes and choose specific actions based on information gathered.
- Autonomous vehicles are with advanced tool to gather information, including long range radar, cameras, and LIDAR. Each of the technologies are used in different capacities and each collects different information.
- This information is useless, unless it is processed and some form of information is taken based on the gathered information. This is where artificial intelligence comes into play and can be compared to human brain.
- AI has several applications for these vehicles and among them the more immediate ones are as follows:
 - • Directing the car to gas station or recharge station when it is running low on fuel.
 - • Adjust the trips directions based on known traffic conditions to find the quickest route.
 - • Incorporate speech recognition for advanced communication with passengers.
 - • Natural language interfaces and virtual assistance technologies.

AI for robotics

- AI for robotics will allow us to address the challenges in taking care of an aging population and allow much longer independence.
- It will drastically reduce, may be even bring down traffic accidents and deaths, as well as enable disaster response for dangerous situations; for example, the nuclear meltdown at the Fukushima power plant.

REFERENCES

1. Stuart J. Russell and Peter Norvig, “Artificial Intelligence: A Modern Approach”, 2nd Edition, Pearson Prentice Hall, 2002.
2. Rich & Knight, “Artificial Intelligence”, 3rd Edition, Tata McGraw Hill, 2017.
3. George F. Luger, “Artificial Intelligence: Structures and Strategies for Complex Problem Solving”, 5th Edition, Addison Wesley, 2008.
4. Dan W Patterson, “Introduction to Artificial Intelligence and Expert Systems”, 1st Edition, Pearson Education India, 2015.

Assessment Pattern

- Internal Marks (MSTs, Quiz, Assignment, Surprise Test, Class Performance and Attendance):- 40 Marks
- External Marks:- 60 Marks



THANK YOU