

AI IN HEALTHCARE

Course Content

Unit I

Introduction to AI: History, state of the art, Need for AI in Medicine. Thinking and acting humanly, intelligent agents, structure of agents.

Unit II

Problem Solving using AI: Solving problems by searching –Informed search and exploration–Constraint satisfaction problems– Adversarial search, knowledge and reasoning–knowledge representation – first order logic.

Unit III

Introduction to Healthcare Data Analytics: Healthcare Data Sources and Basic Analytics, Advanced data analytics for healthcare, application and practical system for healthcare, Resources for healthcare data analytics.

Unit IV

Social Media Analytics for Healthcare: Social Media analysis for detection and tracking of infectious disease outbreak, social media analysis for public health research, analysis of social media use in healthcare.

Unit V

Applications and Practical system for Healthcare: Data analytics for Pervasive Health, Fraud detection in healthcare.

Reference Books:

1. David Jefferis, “Artificial Intelligence: Robotics and Machine Evolution”, Crabtree Publishing Company, 1992.
2. Negnevitsky, M, “Artificial Intelligence: A guide to Intelligent Systems”, Harlow: Addison Wesley, 2002.
3. Sergio Consoli, Diego Reforgiato Recupero, “Data Science for Healthcare” Springer International Publishing, 2019

Course Outcomes (COs):

At the end of the course, students will be able to

1. Identify problems that are amenable to solution by AI methods (PO-1,2,3,6. PSO-2,3)
2. Identify appropriate AI methods to solve a given problem. (PO-1,2,3,6. PSO-2,3)
3. Discuss the basic of healthcare data analytics. (PO-2,3,6,7. PSO-2,3)
4. Explain the importance of social media in healthcare. (PO-2,3,6,7. PSO-2,3)
5. Apply the analytics in application and practical system for healthcare. (PO-2,3,6,7. PSO-2,3)
