



P.S.R. ENGINEERING COLLEGE, SIVAKASI – 626 140.

(An Autonomous Institution, Affiliated to Anna University, Chennai)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VALUE ADDED COURSE

VAC14CS03 – OUTLINE REGARDING ARTIFICIAL INTELLIGENCE

Course Objectives:

- To understand the general concepts artificial intelligence
- To understand technical concepts and algorithms of artificial intelligence
- To learn the development of machine learning and deep learning ideas
- To develop a simple final project using the techniques.

Course Outcomes:

The Students will be able to

CO1: Know fundamental concept of AI and machine learning systems

CO2: Learn basics of knowledge representation and reasoning.

CO3: Know the importance of Intelligent Agents learning, classification and Planning.

CO4: Understand terminologies used different systems.

CO5: Understand Design and Planning in efficient algorithms

Course Syllabus:

Day 1: Introduction to AI

Introduction to artificial intelligence

- Course structure and policies
- History of AI
- Proposing and evaluating AI applications
- Case study: Google Duplex

Day 2: *Search and Planning*

- Problem spaces and search
- Knowledge and rationality
- Heuristic search strategies
- Search and optimization (gradient descent)
- Adversarial search
- Planning and scheduling
- Case studies: Playing chess, Manufacturing scheduling

Day 3: *Knowledge Representation and Reasoning*

Logic and inference

- Ontologies
- Bayesian reasoning
- Temporal reasoning
- Case study: Medical diagnosis

Day 4: *Machine learning: Supervised methods*

What is machine learning?

- Supervised vs. unsupervised learning
- Regression -- linear, logistic, ridge
- Classification – decision trees, SVM, random forests