

KRISHNASAMY

College of
ENGINEERING & TECHNOLOGY

Approved by AICTE & Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
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DEPARTMENT OF MCA

15.02.2023

CIRCULAR

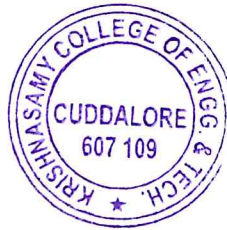
Ref.: KCET/MCA/VAC/CIRCULAR/2022-23/01.

The following Value Added Course will be conducted during the academic year 2022-2023. The course will be conducted from 01.03.2023 to 07.03.2023. Students are instructed to register their names in the course allotted to them.

Note: Students are instructed to attend the program without fail.

S.No.	Course Code	Name of the Course	Year / Sem	No. of Period	Course Coordinator
1	MCA-VAC2201	Artificial Intelligence using Machine Learning	I/II	30	Mr.P.Anbumani, ASP/MCA

15/02/2023
HOD/MCA

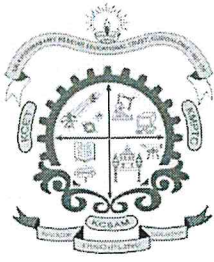


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Class Room

Class In charge

Department File



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DEPARTMENT OF MCA

Subject Code: MCA-VAC2201

Subject Name: ARTIFICIAL INTELLIGENCE USING MACHINE LEARNING

Duration: 30 Hours

OBJECTIVES:

- To familiarize with the principles of Artificial intelligence like problem solving, Inference, perception, knowledge representation, and learning.
- To understand the various characteristics of intelligent agents
- To design and implement the machine learning techniques for real world problems
- To gain experience in doing research using Artificial intelligence and Machine learning Techniques

MODULE- I ARTIFICIAL INTELLIGENCE

Foundation of AI-History of AI-State of Art.-Intelligent Agents: Agents and Environments Concepts of Rationality-Nature of Environments-Structure of Agents. Problem Solving: Problem Solving by Search: Problem Solving Agents-Searching for Solutions-Uniform Search Strategies-Heuristic Search Strategies

6

MODULE- II KNOWLEDGE AND REASONING

Logical Agents: Knowledge Based Agents-Logic-Propositional Logic-Propositional Theorem Proving-Model Checking-Agent based on Propositional Logic. First-Order Logic: Syntax and Semantics- Using First-Order Logic-Knowledge Engineering.

6

MODULE- III BAYESIAN LEARNING

Basic Probability Notation- Inference – Independence - Bayes' Rule. Bayesian Learning: Maximum Likelihood and Least Squared error hypothesis-Maximum Likelihood hypotheses for predicting probabilities- Minimum description Length principle. 6

MODULE- IV PARAMETRIC MACHINE LEARNING

Logistic Regression: Classification and representation – Cost function – Gradient descent – Advanced optimization – Regularization - Solving the problems on overfitting. Perceptron – Neural Networks. 6

MODULE- V NON PARAMETRIC MACHINE LEARNING

k- Nearest Neighbors- Decision Trees – Branching – Greedy Algorithm - Multiple Branches – Continuous attributes – Pruning. Random Forests: ensemble learning. Boosting – Adaboost algorithm. Support Vector Machines. 6

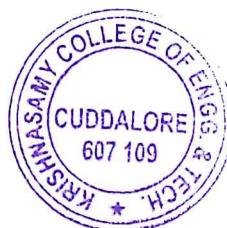
TOTAL: 30 Periods

OUTCOMES:

- Apply the techniques of Problem Solving in Artificial Intelligence.
- Implement Knowledge and Reasoning for real world problems.
- Model the various Learning features of Artificial Intelligence
- Analyze the working model and features of Decision tree
- Apply k-nearest algorithm for appropriate research problem.

REFERENCES:

1. Stuart Russell and Peter Norvig, “Artificial Intelligence: A Modern Approach” , Third Edition Pearson Education Limited, 2015.
2. CalumChace , “Surviving AI: The Promise and Peril of Artificial Intelligence”, Three CS Publication, Second Edition, 2015.
3. Christopher M Bishop, “Pattern Recognition and Machine Learning”, Spring 2011 Edition.



A. S. J. P.
14/10/2029
HOD/MCA