

CAI3105 Advanced Artificial Intelligence

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
CAI3601	4	7/8	2	2	0	3

COURSE AIM

- Understand the basic concepts of genetic algorithm and its applications
- Understand the basic concepts of advanced machine learning algorithms.
- Apply the basic principles of advanced machine learning algorithms on example data.

COURSE WEEKLY CONTENTS

- 1 Introduction
- 2 Genetic Algorithms
- 3 Genetic Programming Applications
- 4 Principal Component Analysis
- 5 Supervised Learning (Naive Bayes, K Nearest Neighbors)
- 6 Supervised Learning (Decision Trees, Random Forests, SVM)
- 7 Unsupervised Learning (Partitioning Clustering)
- 8 Unsupervised Learning (Hierarchical Clustering)
- 9 Unsupervised Learning (Density Based Clustering)
- 10 Recommendation Engines
- 11 Introduction to Deep Learning
- 12 Convolutional Neural Networks
- 13 New Trends in AI
- 14 Research Activities
- 15 Revision

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	←		30	MARKS		→	30
8 to 12	←		20	MARKS		→	20
1 to 15	←		10	MARKS		→	10
16 or 17	40	Final					40

REFERENCES

Textbook Russell S. and Norvig P., Artificial Intelligence: A modern Approach, Prentice-Hall.