Manarat International University

Artificial Intelligence (CSE-411)

Course Outline

Course Objective

- Introducing fundamental concepts and methods for Artificial Intelligence.
- Ability to apply Artificial Intelligence techniques for problem solving.

Course Description

This course provides a broad introduction to machine learning and statistical pattern recognition. Topics include: supervised learning (generative/discriminative learning, parametric/non-parametric learning, neural networks, support vector machines); unsupervised learning (clustering, dimensionality reduction, kernel methods); learning theory (bias/variance trade-offs, practical advice) etc.

Prerequisites: Basic understanding of Probability and Satistical Learning and Linear Algebra

Syllabus

S.L	Topic	Resources
1	Review on Probability	Repository CSC411 CS229 Coursera Python DataScience
2	Introduction to Statistical Learning	
3	Probability Distribution	
4	Linear and Logistic Regression	
5	Naive Bayes Classifier	
6	Bayesian Inference	
7	Unsupervised Learning Algorithms	
8	Support Vector Machines	
9	Evaluation Metrics for Machine Learning	
10	Learning Theory	

Marks Distribution

S.L.	**Exam**	**Mark**	**Syllabus**
1	Midterm	20	1 – 5
2	Final	40	5 - 10
3	Lab	25	Quiz (5) + Presentation (5) + Competition (15)
4	Teacher's Review	15	Class Performance
Total		**100**	

Due to the current COVID-19 situation different arrangements will have to make to assessments to facilitate remote learning and teaching.