

19ES1451

AI Tools Lab

Offering Branches	CSE,CE,ME		
Course Category:	Engineering Sciences	Credits:	1
Course Type:	Practical	Lecture-Tutorial-Practical:	0-0-2
Prerequisites:	Programming Languages – Basics of Python	Continuous Evaluation:	25
		Semester End Evaluation:	50
		Total Marks:	75

Course Outcomes

Upon successful completion of the course, the student will be able to:

CO1	Apply various preprocessing techniques and Machine Learning/ Deep Learning methods on different datasets for a given problem.	L3
CO2	Implement various experiments in Jupyter Notebook Environment.	L3
CO3	Develop an effective report based on various learning methods implemented.	L3
CO4	Apply technical knowledge for a given scenario and express with an effective oral communication.	L3
CO5	Analyze the outputs and visualizations generated for different datasets.	L4

Course Content

Exp. No.	Contents	
1	Apply Data pre-processing techniques.	CO1,CO2,CO3, CO4,CO5
2	Construct a Machine Learning model using supervised learning method.	CO1,CO2,CO3, CO4,CO5
3	Construct a Machine Learning model using Unsupervised learning method.	CO1, CO2, CO3, CO4,CO5

4	Construct a Machine Learning model using Semi supervised learning method.	CO1, CO2, CO3, CO4,C05
5	Develop a Deep Learning model using supervised learning method.	CO1,CO2,CO3, CO4,C05
6	Develop a Deep Learning model using Unsupervised learning method.	CO1, CO2, CO3, CO4,C05
7	Apply a Convolutional Neural Network for Image Classification.	CO1, CO2, CO3, CO4,C05
8	Build an AI application.	CO1, CO2, CO3 , CO4,C05

Learning Resources

Text Books

1. Artificial Intelligence: A Modern Approach, Stuart Russell and Norvig, Third Edition, 2015, Pearson Education.
2. Machine Learning: A Probabilistic Perspective, Kevin P. Murphy, 2012, MIT Press
3. Deep Learning (Adaptive Computation and Machine Learning series), Ian Goodfellow , Yoshua Bengio, Aaron Courville, [Francis Bach](#), 2017, MIT Press

e-Resources & other digital material

1. <https://github.com/atinesh-s/Coursera-Machine-Learning-Stanford>
2. <https://github.com/Kulbear/deep-learning-coursera>

Course Coordinators:

1. Dr. J Rama Devi
2. Dr. G Lalitha Kumari
3. Mrs. Y Surekha

(Dr. A Jaya Lakshmi)

Prof. & Head, Dept. of CSE