

KLS Vishwanathrao Deshpande Institute of Technology



(Accredited by NAAC with "A" Grade)

(Approved by AICTE, New Delhi, Affiliated to VTU, Belagavi)

(Recognized Under Section 2(f) by UGC, New Delhi)

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Add-on Course Syllabus

Title: BASICS OF AI & ML

Semester: 4th

Total Number of Lecture Hours: 30Hrs

AY:2024-25 (EVEN)

Modules	RBT Level
Module-1	
1. Python Machine Learning - Part 1 Types of Machine Learning, Training the Perceptron, Scikit-Learn Perceptron, Predicting Class Probabilities, Handling Data, Feature Scaling	L1,L2
Module-2	
2. Machine Learning Fundamentals Data Preprocessing, Unsupervised Learning, Supervised Learning Algorithms, Artificial Neural Networks, Performance Analysis	L1,L2
Module-3	
3. Hands-on Supervised Machine Learning with Python Hill Climbing and Loss Functions, Model Evaluation and Data Splitting, Implementing Parametric Models, Implementing Linear Regression from Scratch, Implementing Logistic Regression from Scratch, Introduction to Non-Parametric Models and Decision Trees, Various Clustering Methods, Neural Networks	L1,L2
Module-4	
4. Hands-On Unsupervised Learning with Python Benefits of Unsupervised Learning, Finding Association Rules, Unsupervised Learning and the Curse of Dimensionality, Approaches to Dimensionality Reduction, Case Study: K-Means and Wholesale Data	L1,L2
Module-5	
5. Python Deep Learning for Beginners A Brief History of Deep Learning, Feedforward Networks, Backpropagation, Overfitting and Regularization, Understanding CNNs, Deep CNNs, Batch Normalization, Fine-Tuning, Fully Convolutional Networks, Recurrent Neural Networks	L1,L2

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