A complete web enabled Education Administration Software

Sr. No.	Topic Name
1	Basic concepts: Definition of learning systems, Goals and applications of machine learning
2	Aspects of developing a learning system: training data
3	concept representation, function approximation
4	History of ML, Introduction of Machine Learning Approaches – (Artificial Neural Network, Clustering)
5	History of ML, Introduction of Machine Learning Approaches – (Reinforcement Learning, Decision Tree Learning)
6	History of ML, Introduction of Machine Learning Approaches – (Bayesian networks, Support Vector Machine, Genetic Algorithm)
7	Issues in Machine Learning and Data Science Vs Machine Learning
8	Types of Learning: Supervised learning and unsupervised learning
9	Overview of classification: setup, training, test
10	Overview of classification: validation dataset, over fitting
11	Classification Families: linear discriminative, non-linear discriminative, decision trees
12	Classification: Decision Trees – Attribute Selection Measures and Tree Pruning;
13	Bayesian and Rule-based Classification; Model Evaluation and Selection; Cross-Validation;
14	Classification Accuracy; Bayesian Belief Networks; Classification by Backpropagation; and Support Vector Machine
15	Regression: Linear Regression and Logistic Regression, Perceptron, Exponential family
16	Generative learning algorithms, Gaussian discriminant analysis, Naive Bayes,
17	Support vector machines: Optimal hyper plane, Kernels. Model selection and feature selection
18	Combining classifiers: Bagging, boosting (The Ada boost algorithm)
19	Combining classifiers: Evaluating and debugging learning algorithms, Classification errors
20	Introduction to Weka: a machine learning tool for Classifiers
21	Introduction to Weka: a machine learning tool for Clustering
22	Decision Tree Learning - Decision tree learning algorithm
23	Inductive bias, Inductive inference with decision trees
24	Entropy and information theory, Information gain
25	ID-3 Algorithm
26	Issues in Decision tree learning
27	INSTANCE-BASED LEARNING – k-Nearest Neighbour Learning

Sr. No.	Topic Name
28	Locally Weighted Regression, Radial basis function networks
29	Case-based learning
30	Clustering, K-means
31	EM Algorithm
32	Mixture of Gaussians, Factor analysis
33	PCA (Principal components analysis)
34	ICA (Independent components analysis)
35	latent semantic indexing, Spectral clustering
36	Markov models Hidden Markov models (HMMs).
37	Reinforcement Learning–Introduction to Reinforcement Learning
38	Learning Task,Example of Reinforcement Learning in Practice
39	Learning Models for Reinforcement – (Markov Decision process , Q Learning - Q Learning function, Q Learning Algorithm)
40	Application of Reinforcement Learning
41	Introduction to Deep Learning
42	Genetic Algorithms: Introduction, Components
43	GA cycle of reproduction, Crossover, Mutation
44	Genetic Programming
45	Models of Evolution and Learning, Applications