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Assignment 1

Apply Apriori Algorithm for the following transactions and evaluate confidence. Tid List of Item IDs
T100 I1, I2, I5 T200 I2, I4 T300 I2, I3 T400 I1, I2, I4 T500 I1, I3 T600 I2, I3 T700 I1, I3 T800 I1, I2, I3, I5
T900 I1, I2, I3. (Use Assignment answer sheet or, use unit 1 ppt 132-142)

Assignment 2

Comment on Back Propagation technique. (Use DL notes or write on your own)

Or

Illustrate Multilayer perceptron with an appropriate detail. (Use DL notes or use unit 4 multilayer perceptron ppt)

CAE 1

Discuss about PAC Learning. Highlight the tradeoff between Bias and Variance (UNIT 1 164-187)

Find linear regression equation for the following two sets of data: a) Plot the data. Do X and Y seem to have linear relationship? b) Predict the Y value when X=15 X 2 4 6 8 Y 3 8 5 10. (Use your answer sheet)

Criticize "PCA is good for dimensionality reduction". (UNIT 1 164-187)

Predict whether will buy computer or not using Naïve Bayes Classification for the given Dataset and X = {age = youth, Income = Medium, Student = yes, Creditrate = Fair} (UNIT 2 46-47)

CAE 2

Compose the decision tree using Decision Tree Induction.

Owens Home	Married	Gender	Employed	Class
Yes	Yes	Male	Yes	B
No	No	Female	Yes	A
Yes	Yes	Female	Yes	C
Yes	No	Male	No	B
No	Yes	Female	Yes	C
No	No	Female	Yes	A
No	No	Male	No	B
Yes	No	Female	Yes	A
No	Yes	Female	Yes	C
Yes	Yes	Female	Yes	C

Evaluate the clusters using the Single linkage Hierarchical Clustering for the distance matrix and draw its Dendrogram. (UNIT 3 Hierarchical Clustering (PPT) 18-31, 33-34, 35)

	A	B	C	D	E	F
A	0					
B	0.71	0				
C	5.66	4.95	0			
D	3.61	2.92	2.24	0		
E	4.24	3.54	1.41	1.00	0	
F	3.20	2.50	2.50	0.50	1.12	0

Construct a Single Layer perceptron and explain it with an example. (Neural Network (PPT) UNIT 4 29-33)

Solve using Back propagation neural network algorithm. Given (Multilayer-Perceptron (PPT) 11-15)

Solve using Back propagation neural network algorithm. Given:									
X1	X2	X3	W14	W15	W24	W25	W34	W35	W46
1	0	1	0.2	- 0.3	0.4	0.1	- 0.5	0.2	- 0.3

	W56	θ_4	θ_5	θ_6	
	- 0.2	- 0.4	0.2	0.1	
Learning rate = 0.9, Class label (Target T_j) = 1.					

