1D: 18DCS007 NAME : RUDRA BARAD

SUB : MACHINE LEARNING



DATE: 14/04/21

81.	Cross - validation is a mesampling procedure used to						
	estimate, learning models on a limited data sampl						
	It is primarily used in applied machine learnings to						
	estimate the skin of a machine learning model on						
	unseen data. That is to use a limited sample in order						
	to estimate how the model is exposed to perform.						
	TO COMPINE PROBLEM TO POURSE TO POUR						
	Evaluation of k-fold cross validation [k=2 > 3						
	2V- 3V- 3V- 3V- 3V- 3V- 3V- 3V- 3V- 3V- 3						
€g.	and the nest is trained :::: (80:1- accuracy)						
٥	and the nest is trained						
	:::: (80% accuracy)						
191	So with this matrix ite can find the accuracy						
1110	31 mod i si amudo sat 1st FOLDINE on do the pos						
00	of which the classifier predicted predicted only 6						
	had a gi effusare drines a so P replie has I						
	next 33.1. 15						
	is torained is tested and is accuracy						
	next 33% is tested & next is tested and the next is the next is						
	trained 2nd FOLD						
	mount de la la de la del						
	PRECISION = TRUE POSITIVE						
	FRUE POSITIVE + FRISE POSITIVE						
	The actual accuracy will be the average of the						
	accuracy of all the 3 folds						
	Recall = TRUE POSITIVE						
	(onfusion Matrix also known as an euron matrix is						

2

SUB: MACHINE LEARNING DATE: 14/04/21



at heis a specific table table layout that allows of visualization of the performance of an algorithm It is primarily used in applied marhine learnings to estimate the skin of a XINTAM MOISUANDO model ones unseen data. That is to use a limited sample in and un TRUE to estimate manually model is exposed to perform TRUE +VE FALSE +VE validance ole CHURH & OTOHOULOV 3 FALSE -Ve bareat banipust el d'Churn=1 churn=0 and the nest is thained Priediched lately 9 (80.1- accordach) So with this matrix we can find the accuracy let's say out of 40 students the churn is 1 For 15 out of which the classifier predicted predicted only 6 as I and other 9 as a which negults in a bad prediction of churn =1 while an the other side of the expect spectrum the prediction seems betten. 4000 B -> Precision is the measure of accuracy PRECISION = TRUE POSITIVE TRUE POSITIVE + FALSE POSITIVE Recall is the true positive make loute accuracy of all the 3 folds Recall = TRUE POSITIVE richom come n'TRUE POSITIVE + FALSE NEGATIVE IN



	Based on the precision and recall we man						
	calculate the F, score which gives the actual						
	accurally of the modeleans - 318819100 1313911						
	WEIGHT HEIGHT CLASS						
	Hosione = 2x (precision x necall)						
	(precision + recall)						
	64 173 normal	.4					
Eg.	JOHNSON PRECISIONS PRECIALL 22 FI- SCORE	5.					
	ss 174 undorweight	6.					
7.4	CHURM = 0 . 0.73 Pd 0.96 82 0.83	T					
	CHURN = 1 0.86 8 11 0.40 18 0.55	.8					
	55 170 nonmal	1,0					
	? Average accuracy = 0.72	.01					
	So, 72°1. is the accuracy of the model						
	USING MANHATTAN DISTANCE						
	Distantello						
	1 6+3 · 9						
	5 2+15 = 11						
	81 = 9+51 . 8						
	4 1+3 = 10						
	5 8+2 = 10 2 1+4 = [5]						
	0 81000 11D1311 10 3636013 3111						
duidos	8 0 + 8 = 3 10 (W=57, H=170) one \$6,7,8,9?						
	ta.						
(1)	The point will be classified as nonmal acc. to knik						
(P	THE POINT COLL CHASTING AS HOURING OFF. TO WHILE						



02.0	K=4, we have to use	Manhattan distar	Based on				
In	which gives the actu	the Fr score	Holuston				
	TARGET VARIABLE -> CLF	1551 shom and to	accurately				
	WEIGHT	HEIGHT	CLASS				
1.	SICHODERKE	= 2x (nrarision	underweight				
2.	.62	182.	nonmal				
3.	(JJD3918 + 118	176	nonmal				
4.	64	173	nonmal				
5.	RECALL 65 FL- SCORE	172/40/2103/9	nonmal				
6.	56	174	underweight normal underweight				
7.	88.0 58 JP.0	169 81.01	underweight				
8.	22.0 57 01.0	173 28-0	a nonmal				
9.	55	170	nommal				
10.	57 51-0=	umage acortacy	A ?				
	So, 72% is the accuracy of the model						
	USING MANHATTAN DISTANCE						
	Distancello)					
	1. 6+3= 9						
	2 5+12 = 17						
	3. 12+6 = 18						
	4. 7+3 = 10						
	5. 8+2 = 10						
	6. 1+4 = 5						
	7. 1+1 = 2	The closest 4					
	8. 0+3 = 3		are {6,7,8,93 which				
	g. 2+0 = 2	means underw	eigh: 1				
	熔.	полта	1:3				
	The point will be class	sified as normal	acc. to KMN(4)				



						Y	
83.	FRUIT	SARMONS	SWEET	LONG	P(Fauit / bun		
	MANGO	550	450	O	650 01911		
	BAHANA	400	300	350	400		
	OTHER	50	100	= 50 ran	101150119419		
	TOTAL	800	850	400	1200		
					P (sweet / ot		
	New = P(yellow/mango) = P(mango/yellow). P(yel					ellow)	
			22	Pima	ngo) 0001 19		
			-	350 x	800 650		
	210	0.33 = 0.	33 x 0.66 x	800	1200 1200	,	
	= 0.53						
	P(sweet/mango) = \$50 / 650 = 0.69						
	(2000) 8507 1200 1200 Jimen 9						
	P(long / mango) = 0 , 400 650 = 0 400 1200 1200 P(Fruit mango) = 0.53 × 0.69 × 0.70						
	Now we a mana		re swie	that new	Features is	not	
	Similarly						
	Pl yellou	o /banana) 2				
		/ bananc					
		1 banana	A second				
	•						





	P (foruit / ba)	nana) 3	1×0.75 x 60	0.69	FRUIT	88
			0.8			
	New, 022	0	480	083	OWNEM	
- 118	004	350	300	000	Вионая	
	Plyellow 10	thers) =	0.3301	0.8	DIHER	
	002(058	008	JAFOT	
	P (sweet / o	thers) =	0.66			
(001	yellow).e (ye			a (allow	19 = 63911	
	P (long lot					
		350 /				
	P (fruit 10			0.33 = 0	.072	
		0.53				
	Now we car	1 see tha	t, 02			
		1680		- (april	Preweet/in	
	P (Fruit /	banana)	> P (fruit	t (others)	>	
	0			= (0000	it (mango)	
		0051	0021 00	L (1310	ire (Marigo)	
	: New fee	ature set	will be	banana,	P(FSIMIL IO	
						A LINE
do	Fratures is	iat new	It stue 9	can mak	now we	
					a manga	
					phrolimiz	A PAGE
			1:([bornand]	Plyellow	
					Pleweet	
			18-0 = (banana	1 pro1) 9	