

XLSTAT 2015.2.01.17315 - ROC Curves - on 5/3/2015 at 20:53:21

Event data: Workbook = ALL\_NB / Sheet = ALL\_NB / Range = ALL\_NB!\$C:\$C / 2168 rows and 1 column

Test data: Workbook = ALL\_NB / Sheet = ALL\_NB / Range = ALL\_NB!\$E:\$E / 2168 rows and 1 column

Size (%): 95 / Clopper-Pearson

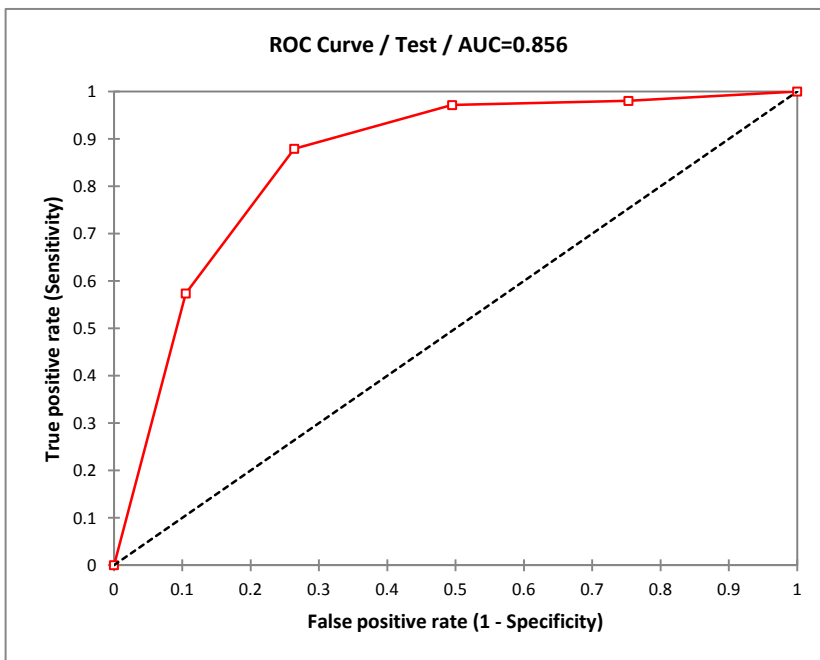
Area under the curve (Variance): Hanley & McNeil

Costs: TP = 1 / TN = 1 / FP = 1 / FN = 1

Summary statistics (Test):

Variable	Observation	with missing	without missing	Minimum	Maximum	Mean	std. deviation
Test	2168	0	2168	1.000	5.000	3.008	1.417

Event	Frequency	%
1	455	21%
2	422	19%
3	313	14%
4	355	16%
5	623	29%
Prevalence	0.210	21%

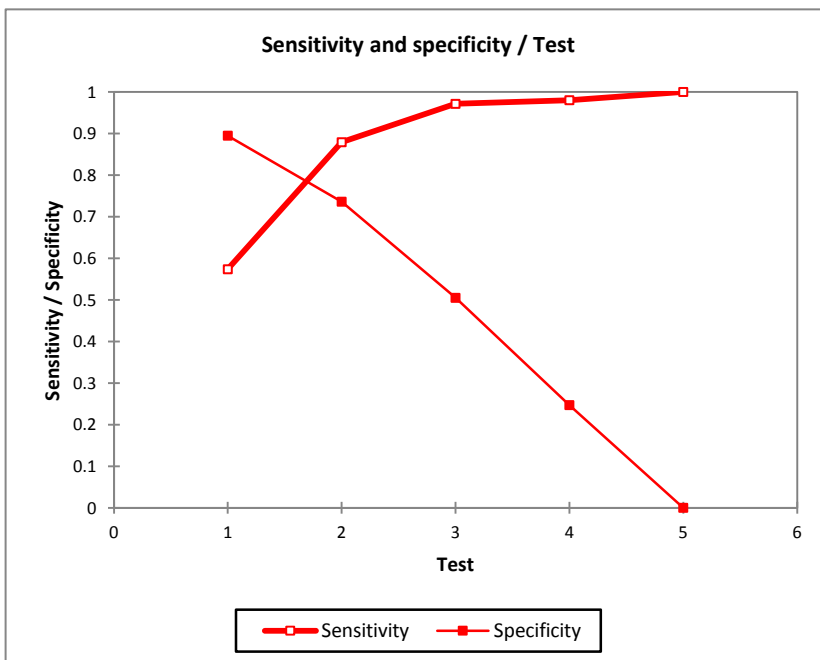
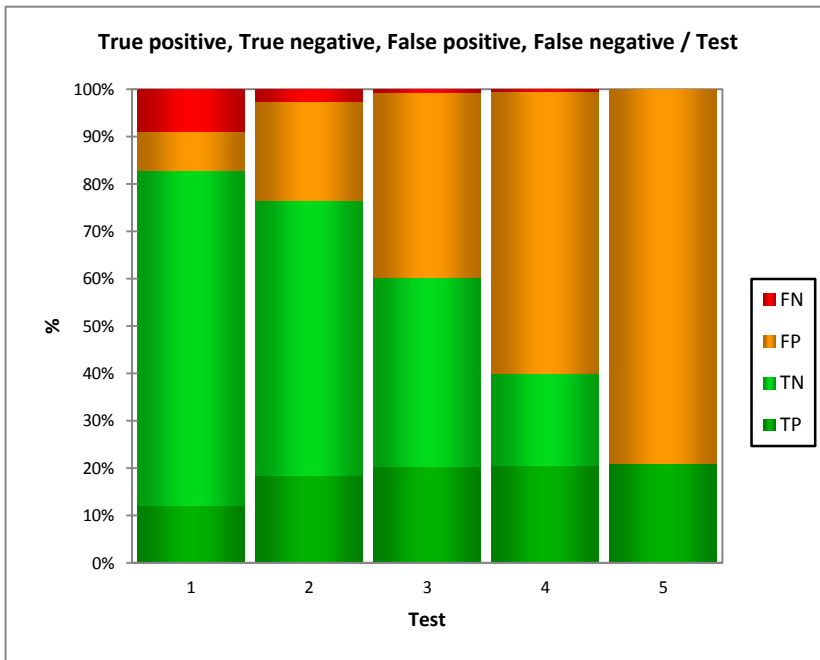


ROC analysis:

Test	Sensitivity	er bound (95%)	er bound (95%)	Specificity	er bound (95%)	er bound (95%)	Cost	PPV
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1.000	0.574	0.527	0.619	0.895	0.879	0.909	2168	0.592
<b>2.000</b>	<b>0.879</b>	<b>0.845</b>	<b>0.907</b>	<b>0.736</b>	<b>0.714</b>	<b>0.757</b>	<b>2168</b>	<b>0.469</b>
3.000	0.971	0.950	0.984	0.505	0.481	0.529	2168	0.343
4.000	0.980	0.961	0.990	0.247	0.227	0.268	2168	0.257
5.000	1.000	0.990	1.000	0.000	0.000	0.003	2168	0.210

Test is positive if Test <= threshold value



Area under the curve (AUC):

AUC	standard error	lower bound (95%)	upper bound (95%)
0.856	0.012	0.833	0.878

Comparison of the AUC to 0.5:

95% confidence interval on the difference between the AUC and 0.5 (Two-tailed test):

] 0.333, 0.378 [

Difference	0.356
z (Observed)	30.687
z (Critical value)	1.960
p-value (Two-tailed)	< 0.0001
alpha	0.05

Test interpretation:

H<sub>0</sub>: The AUC is equal to 0.5.

H<sub>a</sub>: The AUC is different from 0.5.

As the computed p-value is lower than the significance level  $\alpha=0.05$ , one should reject the null hypothesis H<sub>0</sub>, and accept the alternative hypothesis H<sub>a</sub>.

The risk to reject the null hypothesis H<sub>0</sub> while it is true is lower than 0.01%.

NPV	LR+	LR-	TP	TN	FP	FN	Sensitivity+Spec	Accuracy
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0.888	5.459	0.476	261	1533	180	194	1.469	0.827
<b>0.958</b>	<b>3.332</b>	<b>0.164</b>	<b>400</b>	<b>1261</b>	<b>452</b>	<b>55</b>	<b>1.615</b>	<b>0.766</b>
0.985	1.962	0.057	442	865	848	13	1.476	0.603
0.979	1.302	0.080	446	423	1290	9	1.227	0.401
	1.000		455	0	1713	0	1.000	0.210





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