

XLSTAT 2015.2.01.17315 - ROC Curves - on 5/3/2015 at 19:13:22

Event data: Workbook = QC_NB / Sheet = QC_NB / Range = QC_NB!\$C:\$C / 2457 rows and 1 column

Test data: Workbook = QC_NB / Sheet = QC_NB / Range = QC_NB!\$E:\$E / 2457 rows and 1 column

Size (%): 95 / Clopper-Pearson

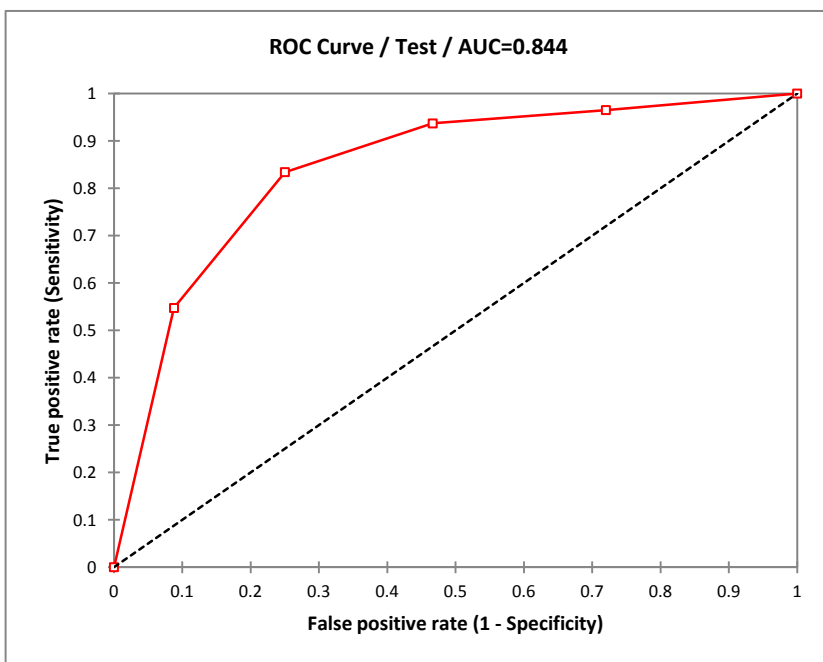
Area under the curve (Variance): Hanley & McNeil

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

Summary statistics (Test):

Variable	Observation	with missing	without missing	Minimum	Maximum	Mean	std. deviation
Test	2457	0	2457	1.000	5.000	3.044	1.439

Event	Frequency	%
1	603	25%
2	304	12%
3	471	19%
4	404	16%
5	675	27%
Prevalence	0.245	25%

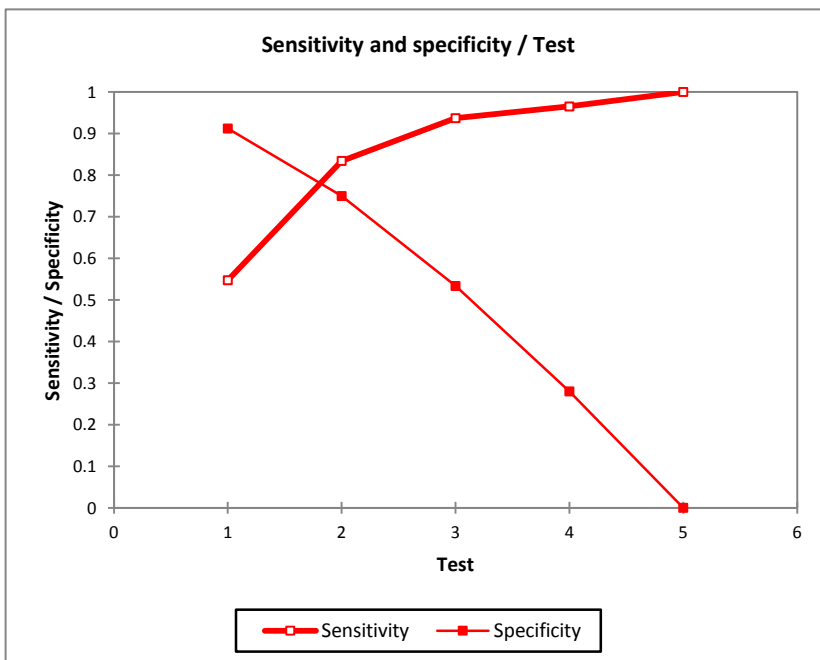
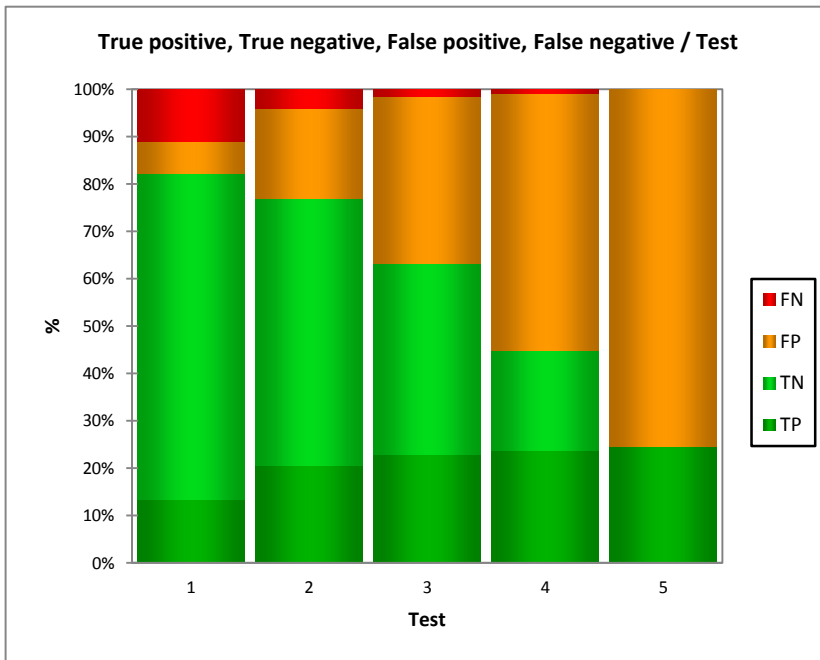


ROC analysis:

Test	Sensitivity	er bound (95%)	Specificity	er bound (95%)	Cost	PPV
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1.000	0.547	0.507	0.587	0.912	0.898	0.924	2457	0.669
2.000	0.834	0.801	0.862	0.750	0.729	0.769	2457	0.520
3.000	0.937	0.914	0.954	0.533	0.510	0.556	2457	0.395
4.000	0.965	0.946	0.978	0.280	0.260	0.301	2457	0.304
5.000	1.000	0.992	1.000	0.000	0.000	0.003	2457	0.245

Test is positive if Test <= threshold value



Area under the curve (AUC):

AUC	standard error	lower bound (95%)	upper bound (95%)
0.844	0.010	0.823	0.864

Comparison of the AUC to 0.5:

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

] 0.323, 0.364 [

Difference	0.344
z (Observed)	32.845
z (Critical value)	1.960
p-value (Two-tailed)	< 0.0001
alpha	0.05

Test interpretation:

H0: The AUC is equal to 0.5.

Ha: 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 H0, and accept the alternative hypothesis Ha.

The risk to reject the null hypothesis H0 while it is true is lower than 0.01%.

NPV	LR+	LR-	TP	TN	FP	FN	Sensitivity+Spec	Accuracy
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0.861	6.225	0.496	330	1691	163	273	1.459	0.823
0.933	3.333	0.221	503	1390	464	100	1.584	0.770
0.963	2.008	0.118	565	989	865	38	1.470	0.632
0.961	1.340	0.124	582	519	1335	21	1.245	0.448
	1.000		603	0	1854	0	1.000	0.245

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