

XLSTAT 2015.2.01.17315 - ROC Curves - on 5/3/2015 at 19:10:09

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

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

Size (%): 95 / Clopper-Pearson

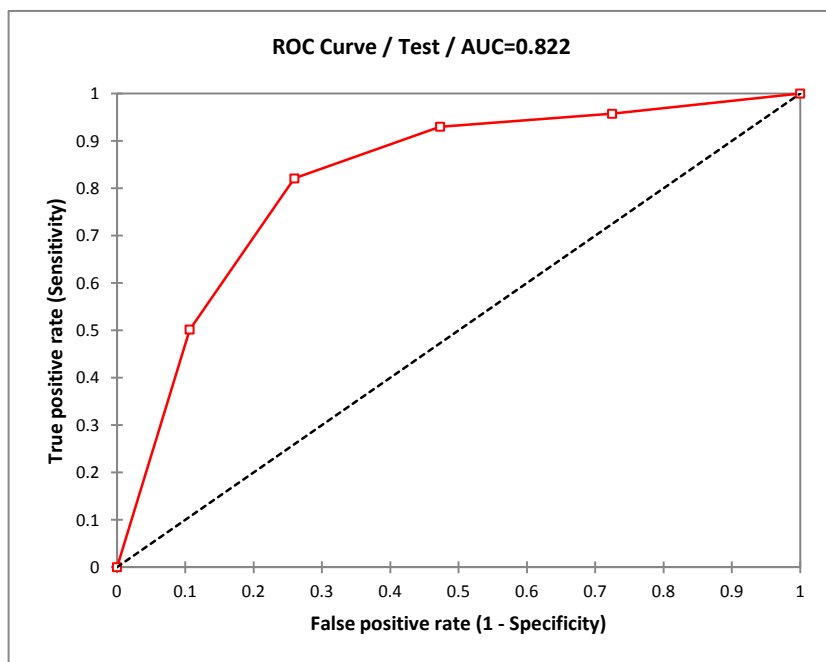
Area under the curve (Variance): Hanley & McNeil

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	586	24%
2	301	12%
3	500	20%
4	422	17%
5	648	26%
Prevalence	0.239	24%

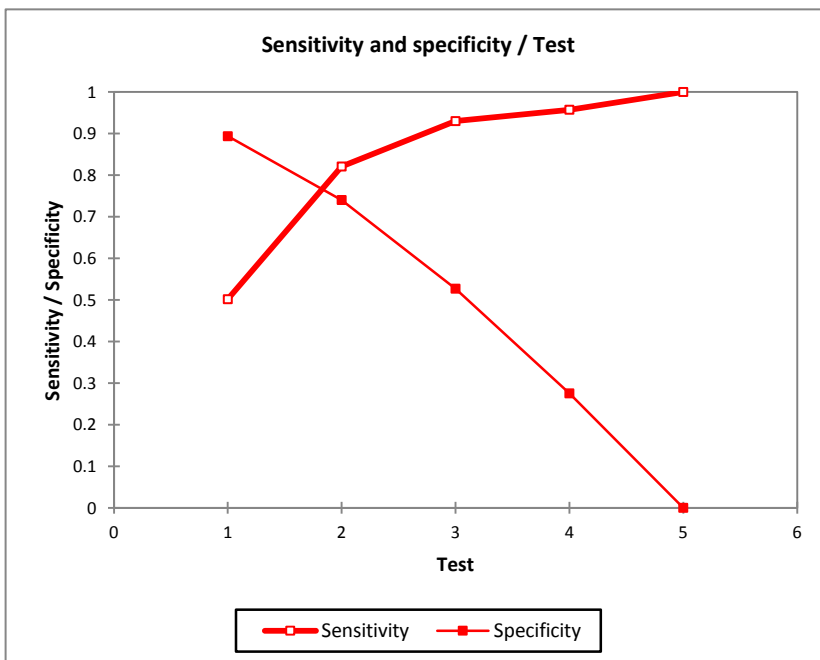
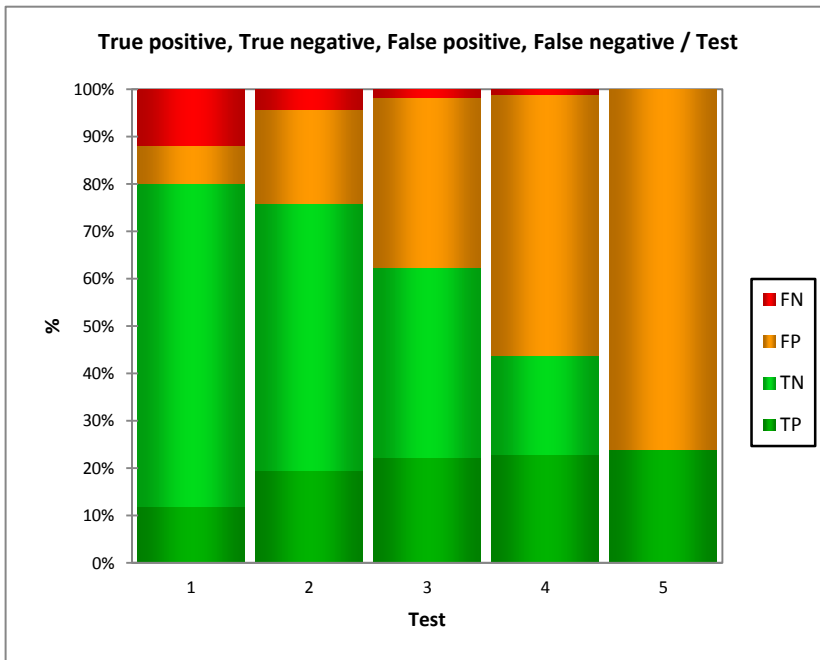


ROC analysis:

Test	Sensitivity	er bound (95%)	Specificity	er bound (95%)	Cost	PPV
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1.000	0.502	0.460	0.543	0.894	0.879	0.907	2457	0.596
<b>2.000</b>	<b>0.821</b>	<b>0.787</b>	<b>0.851</b>	<b>0.740</b>	<b>0.720</b>	<b>0.760</b>	<b>2457</b>	<b>0.497</b>
3.000	0.930	0.905	0.949	0.527	0.504	0.550	2457	0.381
4.000	0.957	0.937	0.972	0.275	0.255	0.296	2457	0.293
5.000	1.000	0.992	1.000	0.000	0.000	0.003	2457	0.239

*Test is positive if Test <= threshold value*



Area under the curve (AUC):

AUC	standard error	lower bound (95%)	upper bound (95%)
0.822	0.011	0.800	0.844

Comparison of the AUC to 0.5:

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

] 0.300, 0.344 [

Difference	0.322
z (Observed)	28.818
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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0.851	4.717	0.558	294	1672	199	292	1.395	0.800
<b>0.930</b>	<b>3.160</b>	<b>0.242</b>	<b>481</b>	<b>1385</b>	<b>486</b>	<b>105</b>	<b>1.561</b>	<b>0.759</b>
0.960	1.966	0.133	545	986	885	41	1.457	0.623
0.954	1.321	0.155	561	515	1356	25	1.233	0.438
	1.000		586	0	1871	0	1.000	0.239





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