

XLSTAT 2015.2.01.17315 - ROC Curves - on 5/3/2015 at 18:09:38

Event data: Workbook = LV_NB / Sheet = LV_NB / Range = LV_NB!\$C:\$C / 6681 rows and 1 column

Test data: Workbook = LV_NB / Sheet = LV_NB / Range = LV_NB!\$E:\$E / 6681 rows and 1 column

Size (%): 95 / Clopper-Pearson

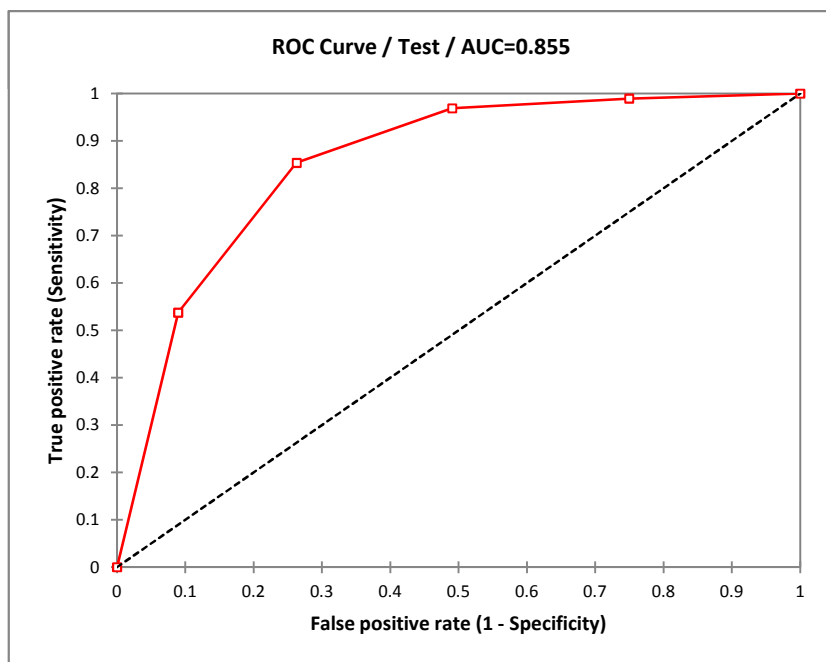
Area under the curve (Variance): Hanley & McNeil

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

Summary statistics (Test):

Variable	Observation	with missing	without missing	Minimum	Maximum	Mean	std. deviation
Test	6681	0	6681	1.000	5.000	3.026	1.397

Event	Frequency	%
1	1451	22%
2	906	14%
3	1491	22%
4	1034	15%
5	1799	27%
Prevalence	0.217	22%

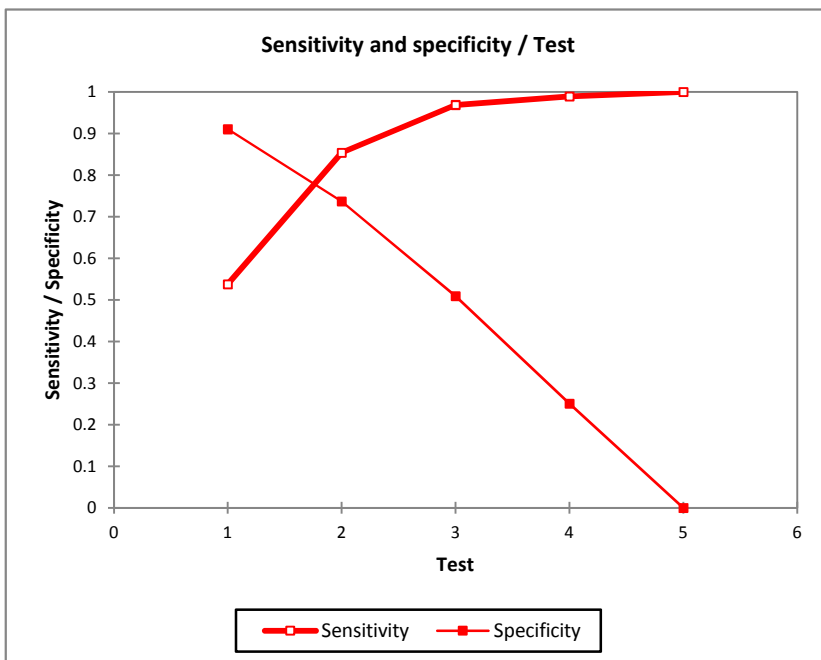
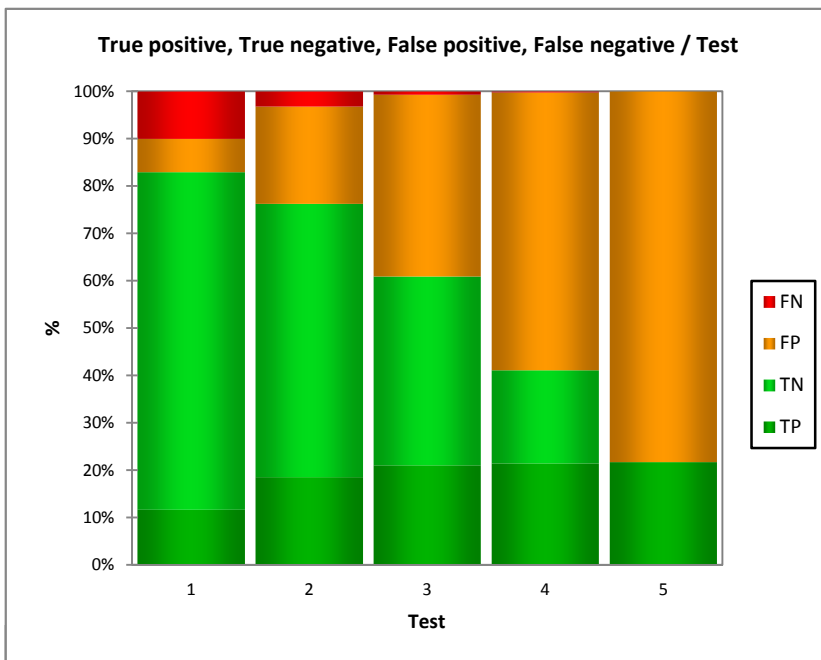


ROC analysis:

Test	Sensitivity	er bound (95%)	er bound (95%)	Specificity	er bound (95%)	er bound (95%)	Cost	PPV
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1.000	0.538	0.511	0.563	0.911	0.902	0.918	6681	0.625
2.000	0.854	0.834	0.871	0.737	0.725	0.749	6681	0.474
3.000	0.969	0.958	0.977	0.509	0.496	0.523	6681	0.354
4.000	0.990	0.983	0.994	0.250	0.239	0.262	6681	0.268
5.000	1.000	0.997	1.000	0.000	0.000	0.001	6681	0.217

Test is positive if Test <= threshold value



Area under the curve (AUC):

AUC	standard error	lower bound (95%)	upper bound (95%)
0.855	0.007	0.842	0.868

Comparison of the AUC to 0.5:

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

] 0.342, 0.368 [

Difference	0.355
z (Observed)	54.508
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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0.876	6.007	0.508	780	4762	468	671	1.448	0.830
0.948	3.246	0.198	1239	3854	1376	212	1.591	0.762
0.983	1.975	0.061	1406	2664	2566	45	1.478	0.609
0.989	1.320	0.041	1436	1310	3920	15	1.240	0.411
	1.000		1451	0	5230	0	1.000	0.217

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