

XLSTAT 2015.2.01.17315 - ROC Curves - on 5/3/2015 at 20:51:41

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

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

Size (%): 95 / Clopper-Pearson

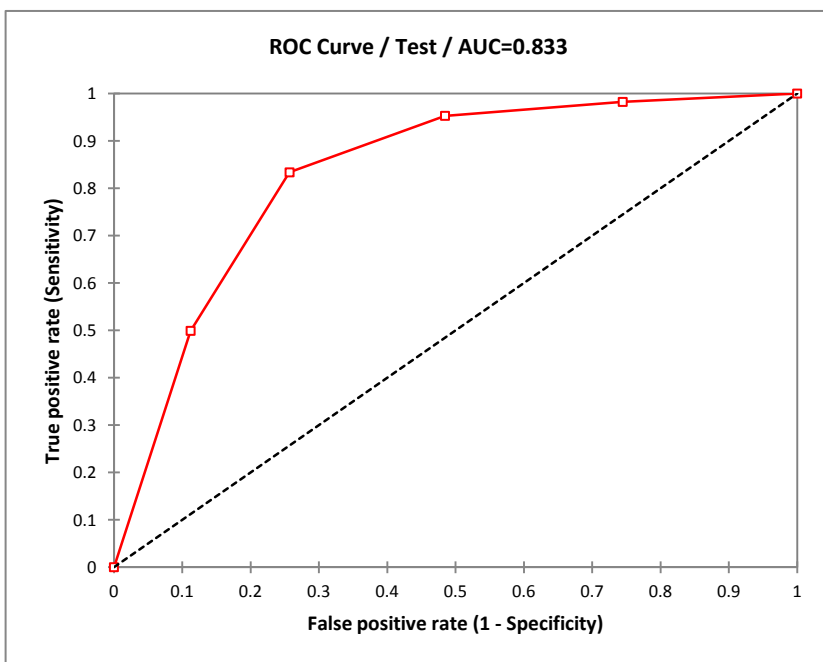
Area under the curve (Variance): Hanley & McNeil

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	511	24%
2	338	16%
3	381	18%
4	296	14%
5	642	30%
Prevalence	0.236	24%

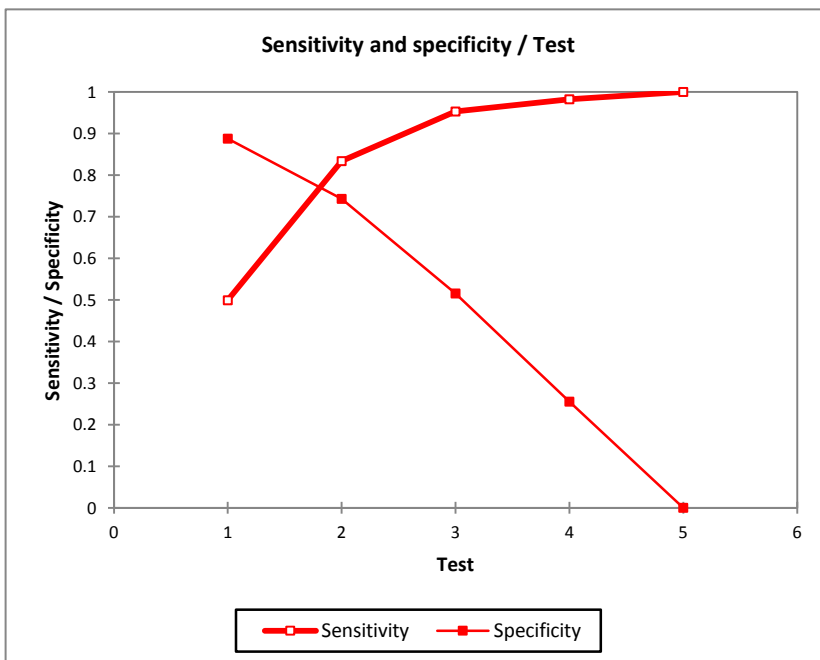
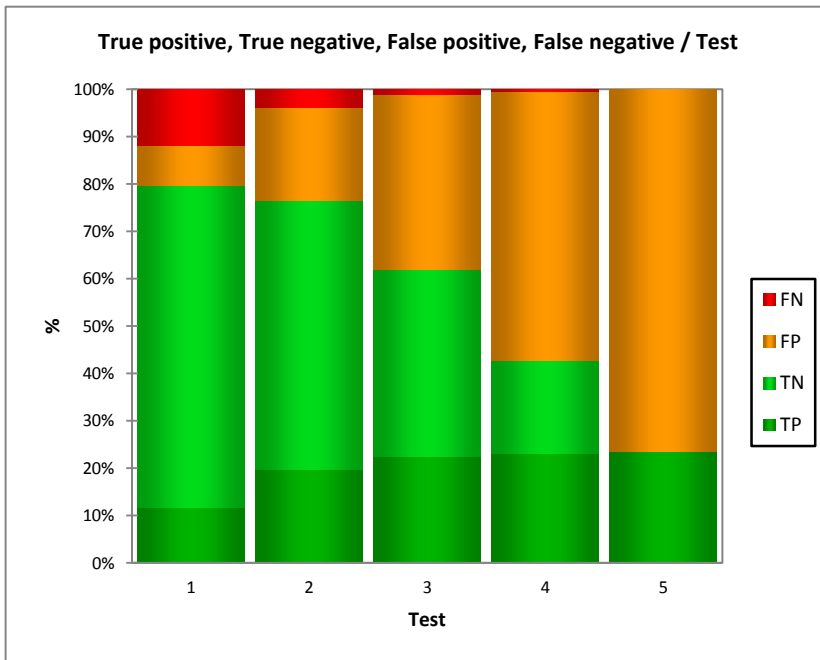


ROC analysis:

Test	Sensitivity	er bound (95%)	Specificity	er bound (95%)	Cost	PPV
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1.000	0.499	0.455	0.543	0.888	0.871	0.902	2168	0.578
2.000	0.834	0.798	0.864	0.743	0.721	0.764	2168	0.500
3.000	0.953	0.930	0.969	0.515	0.491	0.540	2168	0.378
4.000	0.982	0.966	0.991	0.255	0.235	0.277	2168	0.289
5.000	1.000	0.991	1.000	0.000	0.000	0.003	2168	0.236

Test is positive if Test <= threshold value



Area under the curve (AUC):

AUC	standard error	lower bound (95%)	upper bound (95%)
0.833	0.012	0.810	0.855

Comparison of the AUC to 0.5:

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

] 0.310, 0.355 [

Difference	0.333
z (Observed)	28.503
z (Critical value)	1.960
p-value (Two-tailed)	< 0.0001
alpha	0.05

Test interpretation:

H₀: The AUC is equal to 0.5.

H_a: 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 H_a.

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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0.852	4.446	0.564	255	1471	186	256	1.387	0.796
0.935	3.243	0.224	426	1231	426	85	1.577	0.764
0.973	1.967	0.091	487	854	803	24	1.468	0.619
0.979	1.319	0.069	502	423	1234	9	1.238	0.427
	1.000		511	0	1657	0	1.000	0.236

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