

Covid Infection

Logistic Regression

Model Summary - infected

Model	Deviance	AIC	BIC	df	X ²	p	McFadden R ²	Nagelkerke R ²	Tjur R ²	Cox & Snell R ²
H ₀	2374.984	2376.984	2382.652	2138						
H ₁	1396.080	1442.080	1572.446	2116	978.904	< .001	0.412	0.548	0.467	0.367

Coefficients

	Estimate	Robust Standard Error	Standardized ⁺	z	Wald Test			VS-MPR [*]
					Wald Statistic	df	p	
(Intercept)	7.337	1.399	−1.718	5.243	29.691	1	< .001	148536.519
time	−0.006	0.000	−1.844	−17.475	357.799	1	< .001	1.070×10 ⁺⁶⁵
trt	−0.028	0.099	−0.031	−0.282	0.078	1	0.778	1.000
age	0.016	0.008	0.143	1.953	4.093	1	0.051	2.431
wtkg	0.002	0.006	0.033	0.449	0.204	1	0.653	1.000
hemo	−0.571	0.379	−0.159	−1.507	2.889	1	0.132	1.377
homo	−0.006	0.260	−0.003	−0.025	7.029×10 ^{−4}	1	0.980	1.000
drugs	−0.497	0.244	−0.168	−2.041	4.650	1	0.041	2.799
karnof	−0.028	0.012	−0.165	−2.288	5.571	1	0.022	4.363
oprior	0.425	0.464	0.062	0.916	0.783	1	0.360	1.000
z30	0.578	0.321	0.288	1.798	2.648	1	0.072	1.940
preanti	0.000	0.000	0.179	1.190	1.796	1	0.234	1.083
race	−0.551	0.186	−0.250	−2.963	10.253	1	0.003	20.821
gender	0.184	0.292	0.069	0.629	0.423	1	0.529	1.000
str2	−0.509	0.471	−0.251	−1.080	1.140	1	0.280	1.032
strat	0.126	0.310	0.113	0.406	0.213	1	0.685	1.000
symptom	0.420	0.178	0.159	2.362	5.812	1	0.018	5.047
treat	−0.099	0.255	−0.043	−0.389	0.147	1	0.697	1.000
offtrt	−1.889	0.228	−0.909	−8.269	89.971	1	< .001	7.438×10 ⁺¹³
cd40	0.001	0.001	0.134	1.391	1.873	1	0.164	1.240
cd420	−0.005	0.001	−0.785	−6.396	43.122	1	< .001	1.024×10 ⁺⁸
cd80	−0.000	0.000	−0.025	−0.217	0.045	1	0.828	1.000
cd820	0.001	0.000	0.237	2.214	4.048	1	0.027	3.787

Note. infected level '1' coded as class 1.

⁺ Standardized estimates represent estimates where the continuous predictors are standardized (X-standardization).

^{*} Vovk-Sellke Maximum *p*-Ratio: Based on the *p*-value,
the maximum possible odds in favor of H₁ over H₀ equals
1/(−e *p* log(*p*)) for *p* ≤ .37
(Sellke, Bayarri, & Berger, 2001).

Performance Diagnostics

Confusion matrix

Observed	Predicted		% Correct
	0	1	
0	1531	87	94.623
1	190	331	63.532
Overall % Correct			87.050

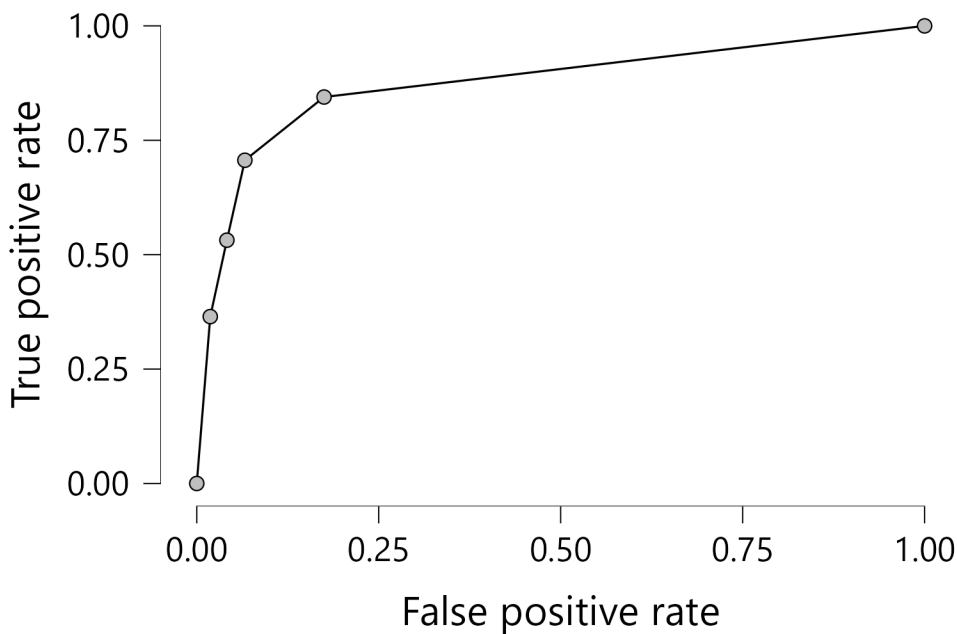
Note. The cut-off value is set to 0.5

Performance metrics

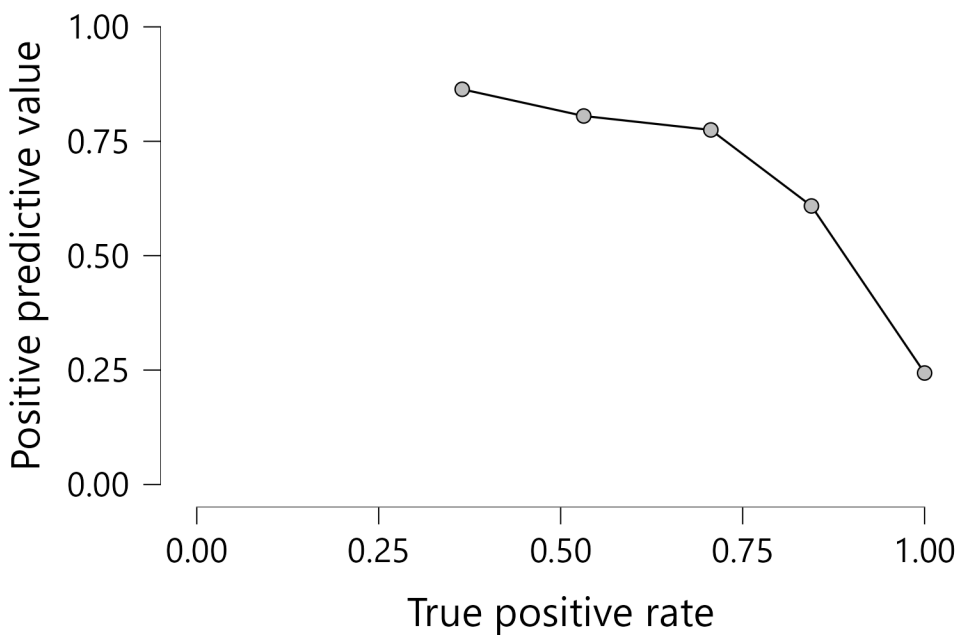
	Value
Accuracy	0.871
AUC	0.898
Sensitivity	0.635
Specificity	0.946
Precision	0.792
F-measure	0.705
Brier score	0.098
H-measure	0.572

Performance plots

ROC plot



PR plot



Residual plots

Squared Pearson residuals plot

