

Table 3, Detailed results of a machine learning model (random forest) used to predict the positivity to SARS-CoV-2 infection.

Each week is progressively used as the test set, while previous records are used for the training. The different parameters computed are described in detail below Figure 2 ('perf.' stands for 'performance'). In the lower panel, TOTAL, MEDIAN, 25th Q(artile), 75th Q(artile) values are computed for the distribution of the different values across weeks.

	Training set	Test set (positives-negatives)	Attributes* removed (missing)	Attributes* removed (significance)	AUC	Cut-off	Baseline perf.	Model-based perf.	Perf. differential	Perf. differential - Positives	Perf. differential - Negatives	Error relative reduction (pos-neg)	Goal reached kept (%bv)	New goal achievement (%be)	Unidentified improvements (%be)	Induced mistakes (%bv)
Nov 04, 2020	10124	8198 (4287-3911)	12, 14	6, 10, 11	.867	.493	1303 (48.38%)	2063 (76.61%)	760 (28.22%)	1110(55.5%-129.5%)	-350 (-50.6%-78.5%)	-54.7% (-97.9% 42.3%)	907 (69.61%)	1156 (83.17%)	234 (16.83%)	396 (30.39%)
Nov 11, 2020	17200	8188 (4459-3729)	12, 14	2, 6, 11, 16	.871	.501	1413 (46.77%)	2418 (80.04%)	1005 (33.27%)	1256 (55.1%-139.1%)	-251 (-33.8%-49.2%)	-62.5% (-91.3% 107.7%)	1037 (73.39%)	1381 (85.88%)	227 (14.12%)	376 (26.61%)
Nov 18, 2020	24356	7512 (3648-3864)	12, 14	6, 15, 16	.865	.502	1075 (43.42%)	1928 (77.87%)	853 (34.45%)	1087 (61.1%-176.2%)	-234 (-33.7%-51.1%)	-60.9% (-93.3% 99.2%)	736 (68.47%)	1192 (85.08%)	209 (14.92%)	339 (31.53%)
Nov 25, 2020	30150	6525 (2368-4157)	12, 14	1, 6, 11, 16	.850	.505	881 (48.22%)	1291 (70.66%)	410 (22.44%)	630 (57.1%-150.4%)	-220 (-30.4%-47.6%)	-43.3% (-92.5% 84.3%)	554 (62.88%)	737 (77.91%)	209 (22.09%)	327 (37.12%)
Dec 02, 2020	33752	6100 (1670-4430)	12, 14	6, 16	.819	.496	793 (52.97%)	927 (61.92%)	134 (8.95%)	364 (54.7%-140.5%)	-230 (-27.7%-43.2%)	-19.4% (-89.7% 77.2%)	437 (55.11%)	490 (69.6%)	214 (30.4%)	356 (44.89%)
Dec 09, 2020	36272	6144 (1469-4675)	12, 14	1, 2, 6, 11	.823	.489	831 (57.27%)	835 (57.55%)	4 (0.28%)	292 (51.8%-128.6%)	-288 (-32.5%-47.7%)	-6.6% (-86.6% 101.8%)	434 (52.23%)	401 (64.68%)	219 (35.32%)	397 (47.77%)
Dec 16, 2020	38490	5731 (1110-4621)	12, 14	2, 6, 16	.833	.506	689 (55.79%)	613 (49.64%)	-76 (-6.15%)	244 (56.9%-148.8%)	-320 (-39.7%-61.1%)	13.9% (-92.1% 113.9%)	290 (42.09%)	323 (59.16%)	223 (40.84%)	399 (57.91%)
Dec 23, 2020	40232	5669 (1066-4603)	12, 14	1, 11, 16, 19	.834	.517	650 (55.41%)	648 (55.24%)	-2 (-0.17%)	225 (56.8%-152.2%)	-227 (-29.2%-45.2%)	4% (-90.7% 82.5%)	327 (50.31%)	321 (61.38%)	202 (38.62%)	323 (49.69%)
Dec 30, 2020	44448	5961 (1094-4867)	12, 13, 14	1, 6, 17	.815	.492	794 (59.17%)	954 (71.09%)	160 (11.92%)	179 (41.3%-107.8%)	-19 (-2.1%-3%)	-29.2% (-67.7% 6.8%)	554 (69.77%)	400 (72.99%)	148 (27.01%)	240 (30.23%)
Jan 06, 2021	46314	6088 (1273-4815)	12, 13, 14	1, 6	.833	.518	809 (54.33%)	1160 (77.9%)	351 (23.57%)	210 (41%-120%)	141 (14.4%-22.2%)	-51.6% (-62.3% -41.1%)	642 (79.36%)	518 (76.18%)	162 (23.82%)	167 (20.64%)
Jan 13, 2021	48496	6102 (1226-4876)	12, 13, 14	2, 6	.830	.481	1634 (57.88%)	2295 (81.3%)	661 (23.41%)	234 (31.6%-76.7%)	427 (20.5%-32.1%)	-55.6% (-53.8% -56.6%)	1352 (82.74%)	943 (79.31%)	246 (20.69%)	282 (17.26%)
Jan 20, 2021	50558	5813 (949-4864)	12, 13, 14	1, 6	.827	.479	697 (57.32%)	983 (80.84%)	286 (23.52%)	107 (28.5%-67.3%)	179 (21.3%-33.3%)	-55.1% (-49.3% -59.3%)	571 (81.92%)	412 (79.38%)	107 (20.62%)	126 (18.08%)
Jan 27, 2021	52152	5925 (966-4959)	12, 13, 14	2, 6	.818	.480	3072 (58.64%)	4328 (82.61%)	1256 (23.97%)	254 (28.8%-74.5%)	1002 (23.3%-36.7%)	-58.5% (-47.7% -61.6%)	2564 (83.46%)	1764 (81.4%)	403 (18.6%)	508 (16.54%)
Feb 03, 2021	53836	5869 (895-4974)	12, 13, 14	1, 2, 6	.810	.479	3503 (59.69%)	4760 (81.1%)	1257 (21.42%)	247 (27.6%-72.6%)	1010 (20.3%-31.9%)	-53.1% (-44.5% -55.8%)	2861 (81.67%)	1899 (80.26%)	467 (19.74%)	642 (18.33%)
Feb 10, 2021	55358	6024 (993-5031)	12, 13, 14	1, 6	.830	.492	3603 (59.81%)	4927 (81.79%)	1324 (21.98%)	351 (35.3%-100.3%)	973 (19.3%-29.9%)	-54.7% (-54.6% -54.7%)	2965 (82.29%)	1962 (81.04%)	459 (18.96%)	638 (17.71%)
Feb 17, 2021	57070	6013 (1162-4851)	12, 13, 14	1, 2, 6	.857	.487	3533 (58.76%)	5004 (83.22%)	1471 (24.46%)	463 (39.8%-114.3%)	1008 (20.8%-32.2%)	-59.3% (-61.2% -58.5%)	2981 (84.38%)	2023 (81.57%)	457 (18.43%)	552 (15.62%)
Feb 24, 2021	59064	6466 (1581-4885)	12, 13, 14	1, 6	.872	.482	3277 (57.06%)	4748 (82.67%)	1471 (25.61%)	576 (39.9%-111.6%)	895 (20.8%-32.4%)	-59.7% (-58.2% -58.2%)	2717 (82.91%)	2031 (82.36%)	435 (17.64%)	560 (17.09%)
Mar 03, 2021	61862	7297 (2330-4967)	12, 13, 14	1, 2, 6	.880	.475	907 (51.16%)	1395 (78.68%)	488 (27.52%)	492 (50.3%-142.6%)	488 (20.8%-7%)	-56.4% (-77.6% -1.7%)	693 (76.41%)	702 (81.06%)	164 (18.94%)	214 (23.59%)
Mar 10, 2021	65908	7820 (2944-4876)	12, 13, 14	1, 6	.878	.489	986 (46.51%)	1717 (80.99%)	731 (34.48%)	713 (54.8%-157.7%)	18 (2.2%-3.4%)	-64.5% (-84.5% -6.3%)	768 (77.89%)	949 (83.69%)	185 (16.31%)	218 (22.11%)
Mar 17, 2021	71070	8109 (3153-4956)	12, 13, 14	1, 6	.892	.488	1101 (47.15%)	1846 (79.06%)	745 (31.91%)	831 (57.9%-168.2%)	-86 (-9.5%-14.2%)	-60.4% (-88.4% 29.3%)	823 (74.75%)	1023 (82.9%)	211 (17.1%)	278 (25.25%)
Mar 24, 2021	76610	7818 (2964-4854)	12, 13, 14	1, 6, 17	.884	.495	1049 (47.42%)	1751 (79.16%)	702 (31.74%)	765 (55.3%-155.5%)	-63 (-7.6%-11.3%)	-60.4% (-85.9% 23.2%)	778 (74.17%)	973 (83.66%)	190 (16.34%)	271 (25.83%)
Mar 31, 2021	81810	7686 (2656-5030)	12, 13, 14	1, 6	.884	.499	994 (47.86%)	1658 (79.83%)	664 (31.97%)	602 (49.9%-143.7%)	62 (7.1%-10.8%)	-61.3% (-76.5% -20.9%)	766 (77.06%)	892 (82.36%)	191 (17.64%)	228 (22.94%)
Apr 07, 2021	86500	7114 (2095-5019)	12, 13, 14	1, 6, 17	.888	.486	904 (50.73%)	1455 (81.65%)	551 (30.92%)	462 (50.8%-145.3%)	89 (10.2%-15.2%)	-62.8% (-78.7% -31.1%)	735 (81.31%)	720 (82%)	158 (18.5%)	169 (18.69%)
Apr 14, 2021	90248	6404 (1480-4924)	12, 13, 14	1, 6, 17	.867	.493	718 (50.42%)	1148 (80.62%)	430 (30.2%)	319 (52%-161.1%)	111 (13.7%-21.3%)	-60.9% (-76.7% -38.3%)	560 (77.99%)	588 (83.29%)	118 (16.71%)	158 (22.01%)

Apr 21, 2021	87636	6532 (1251-5281)	12, 14	1, 2	.889	.493	772 (55.22%)	915 (65.45%)	143 (10.23%)	293 (56.7% 156.7%)	-150 (-17.7% 25.6%)	-22.8% (- 88.8% 50.7%)	461 (59.72%)	454 (72.52%)	172 (27.48%)	311 (40.28%)
Apr 28, 2021	89722	6385 (1128-5256)	12, 14	1, 2	.882	.492	757 (55.83%)	882 (65.04%)	125 (9.22%)	279 (58.8% 161.3%)	-154 (-17.6% -26.4%)	-20.9% (- 90.6% 52.9%)	445 (58.78%)	437 (72.95%)	162 (27.05%)	312 (41.22%)
May 05, 2021	91580	6408 (968-5440)	12, 14	/	.879	.502	3844 (59.99%)	5332 (83.21%)	1488 (23.22%)	422 (43.6% 127.1%)	1066 (19.6% 30.4%)	-58.8% (-66.4% -55.3%)	3202 (83.3%)	2130 (83.07%)	434 (16.93%)	642 (16.7%)
May 12, 2021	93158	6067 (599-5468)	12, 14	/	.871	.497	3787 (62.42%)	5123 (84.44%)	1336 (22.02%)	234 (39.1% 108.8%)	1102 (20.2% 30.9%)	-58.6% (- 60.9% -58.1%)	3167 (83.63%)	1956 (85.79%)	324 (14.21%)	620 (16.37%)
May 19, 2021	94172	5943 (467-5476)	12, 14	1	.864	.487	3706 (62.36%)	5077 (85.43%)	1371 (23.07%)	178 (38.1% 106.6%)	1193 (21.8% 33.7%)	-61.3% (- 59.3% -61.6%)	3188 (86.02%)	1889 (84.44%)	348 (15.56%)	518 (13.98%)
May 26, 2021	94962	5790 (322-5468)	12, 14	1	.830	.503	3618 (62.49%)	4842 (83.63%)	1224 (21.14%)	106 (32.9% 94.6%)	1118 (20.4% 31.9%)	-56.4% (- 50.5% -57.5%)	3017 (83.39%)	1825 (84.02%)	347 (15.98%)	601 (16.61%)
Jun 02, 2021	95508	5910 (209-5701)	12, 14	1, 2	.852	.506	3718 (62.91%)	5028 (85.08%)	1310 (22.17%)	63 (30.1% 77.8%)	1247 (21.9% 34.3%)	-59.8% (- 49.2% -60.4%)	3164 (85.1%)	1864 (85.04%)	328 (14.96%)	554 (14.9%)
Jun 09, 2021	95866	5901 (180-5721)	12, 14	1	.823	.513	3787 (64.18%)	4988 (84.53%)	1201 (20.35%)	40 (22.2% 58.8%)	1161 (20.3% 31.2%)	-56.8% (- 35.7% -58.5%)	3199 (84.47%)	1789 (84.63%)	325 (15.37%)	588 (15.53%)
Jun 16, 2021	95224	5743 (129-5614)	12, 14	2	.854	.493	3664 (63.8%)	4863 (84.68%)	1199 (20.88%)	31 (24.4% 60.8%)	1168 (20.8% 32.3%)	-57.7% (- 39.7% -58.4%)	3062 (83.57%)	1801 (86.63%)	278 (13.37%)	602 (16.43%)
Jun 23, 2021	95448	5658 (83-5574)	12, 14	2	.780	.501	3598 (63.6%)	4753 (84.02%)	1155 (20.42%)	16 (19.3% 50%)	1139 (20.4% 31.9%)	-56.1% (- 31.4% -56.7%)	2973 (82.63%)	1780 (86.45%)	279 (13.55%)	625 (17.37%)
Jun 30, 2021	95588	5438 (75-5363)	12, 14	/	.625	.491	3401 (62.54%)	5083 (93.47%)	1682 (30.93%)	-13 (-17.3% 35.1%)	1695 (31.6% 50.4%)	-82.6% (34.2% -84.8%)	3182 (93.56%)	1901 (93.32%)	136 (6.68%)	219 (6.44%)
Jul 07, 2021	95476	5393 (64-5329)	12, 14	/	.582	.495	3439 (63.77%)	4990 (92.53%)	1551 (28.76%)	-3 (-4.7% 13%)	1554 (29.2% 45.5%)	-79.4% (7.3% -81.2%)	3170 (92.18%)	1820 (93.14%)	134 (6.86%)	269 (7.82%)
Jul 14, 2021	95584	5215 (81-5134)	12, 14	/	.799	.509	3284 (62.97%)	4880 (93.58%)	1596 (30.6%)	-7 (-8.6% 14.9%)	1603 (31.2% 49.5%)	-82.7% (20.6% -84.5%)	3070 (93.48%)	1810 (93.73%)	121 (6.27%)	214 (6.52%)
Jul 21, 2021	95728	3141 (84-3057)	12, 14	/	.840	.507	1983 (63.13%)	2927 (93.19%)	944 (30.05%)	-2 (-2.4% 4.3%)	946 (30.9% 48.8%)	-81.5% (5.3% -84.5%)	1836 (92.59%)	1091 (94.21%)	67 (5.79%)	147 (7.41%)
TOTAL	/	240'100 (53'478-186'620)	/	/	/	/	136336 (58.01%)	199355 (84.82%)	63019 (26.81%)	20087 (40.8% 115.6%)	42932 (23.1% 36.1%)	-63.8% (- 63.9% - 64.3%)	116230 (85.25%)	83125 (84.22%)	15580 (15.78%)	20106 (14.75%)
MEDIAN	46859	5827 (500-4824)	/	/	.824	.488	3611 (58.73%)	5179 (84.26%)	1522 (25.62%)	368 (34.7% 93.6%)	1100 (22.4% 34.5%)	-63.3% (- 55.7% - 63.6%)	3122 (84.7%)	2033 (83.62%)	437 (16.38%)	559 (15.3%)
25TH Q	93918	6530 (1989-5317)	/	/	.872	.502	3472 (55.89%)	5026 (82.07%)	1467 (24.74%)	121 (27.9% 71.7%)	955 (19.5% 30.6%)	-67.3% (- 66.9% - 70.2%)	2978 (82.61%)	1913 (81.75%)	278 (12.56%)	439 (12.04%)
75TH Q	10124	8198 (4287-3911)	/	/	.867	.493	3787 (62.47%)	5393 (87.74%)	1820 (29.27%)	641 (43.2% 125.4%)	1313 (25.3% 39.3%)	-59.1% (- 45.8% - 53.5%)	3315 (87.96%)	2303 (87.44%)	542 (18.25%)	687 (17.39%)