

Model type - random forest

Best parameters:

'max_depth': 20
'min_samples_leaf': 4
'min_samples_split': 10
'n_estimators': 200

confusion matrix:

	True	False
True	5073	1994
False	2963	3215

report:

	precision	recall	f1-score	support
False	0.63	0.72	0.67	7067
True	0.62	0.52	0.56	6178
accuracy		0.63		13245
macro avg	0.62	0.62	0.62	13245
weighted avg	0.62	0.63	0.62	13245

auc: 0.6191192238850795

	feature	importance
1	num_lab_procedures	0.121174
8	inpatientTF	0.116704
3	num_medications	0.106461
0	time_in_hospital	0.073139
4	number_diagnoses	0.064106
2	num_procedures	0.050715
7	emergencyTF	0.033444
6	outpatientTF	0.027343
11	gender_Male	0.022946

10	race_Caucasian	0.018800
29	insulin_No	0.018169
5	DischargedToCare	0.017631
25	admission_source_id_emergency room	0.016898
18	age_[70-80)	0.016445
30	insulin_Steady	0.015835
42	dx_cluster_8	0.015546
52	Sulfonylurea_class_No	0.015095
17	age_[60-70)	0.014731
53	Sulfonylurea_class_Steady	0.013668
24	admission_source_id_Other	0.013509
19	age_[80-90)	0.013477
21	admission_type_id_urgent	0.013266
16	age_[50-60)	0.012853
40	dx_cluster_6	0.012429
22	admission_type_id_elective	0.012211
35	dx_cluster_1	0.012165
26	metformin_No	0.011663
27	metformin_Steady	0.011138
39	dx_cluster_5	0.010752
23	admission_type_id_Other	0.010472
38	dx_cluster_4	0.009816

31	insulin_Up	0.009418
47	Thiazolidinedione_class_Steady	0.009233
46	Thiazolidinedione_class_No	0.009140
15	age_[40-50)	0.009137
36	dx_cluster_2	0.006023
20	age_[90-100)	0.005191
14	age_[30-40)	0.005002
37	dx_cluster_3	0.004774
9	one_lab_procedure	0.003985
13	age_[20-30)	0.002967
54	Sulfonylurea_class_Up	0.002135
50	Meglitinide_class_Steady	0.002082
41	dx_cluster_7	0.002072
49	Meglitinide_class_No	0.002030
28	metformin_Up	0.001016
12	age_[10-20)	0.000839
32	glyburide-metformin_No	0.000707
33	glyburide-metformin_Steady	0.000700
48	Thiazolidinedione_class_Up	0.000407
43	alpha_gluc_inhibitor_class_No	0.000285
44	alpha_gluc_inhibitor_class_Steady	0.000206
51	Meglitinide_class_Up	0.000046

45	alpha_gluc_inhibitor_class_Up	0.000000
34	glyburide-metformin_Up	0.000000