

Project 2 Model Variables and Scores

PARAMETERS						SCORE		
Logistic Regression								
Iterate	# Vars	Penalty	Solver	C		Train	Test	Oot
1	25	l2	saga	1		54.19	53.7	51.98
2	25	l2	lbfgs	5		54.15	53.54	51.83
3	20	l2	saga	5		54.09	53.37	51.84
4	20	l2	lbfgs	5		54.08	53.58	51.82
5	20	l1	saga	0.6		54.02	53.84	51.93
6	25	l2	lbfgs	0.1		54	53.72	51.83
7	10	l2	lbfgs	0.6		53.44	52.21	51.22
8	15	l2	saga	1		53.24	53.2	51.42
9	5	l2	lbfgs	5		52.46	51.44	50.45
Boosting Trees								
Iterate	# Vars	Learning Rate	# Estimators	Max Depth	Subsample	Train	Test	Oot
1	25	0.1	200	4	1	56.24	55.13	53.88
2	20	0.05	1000	4	0.8	56.07	55.5	53.88
3	25	0.02	1000	4	0.8	55.98	55.62	53.88
4	20	0.02	500	4	0.8	55.89	55.87	53.88
5	20	0.05	500	3	0.7	55.87	55.92	53.87
6	20	0.05	500	4	0.7	55.81	56.17	53.87
7	25	0.05	1000	3	0.8	56.08	55.44	53.86
8	20	0.01	500	5	0.7	55.94	55.69	53.86
9	20	0.02	1000	4	0.7	55.88	55.97	53.86
Random Forest								
Iterate	# Vars	Criterion	# Estimators	Max Depth	Max Features	Train	Test	Oot
1	25	entropy	150	20	auto	56.04	55.53	53.86
2	20	entropy	50	10	log2	55.72	56.25	53.8
3	20	entropy	150	30	log2	56.02	55.75	53.8
4	20	entropy	150	30	auto	55.7	56.44	53.79
5	25	entropy	50	20	log2	56.25	55.2	53.79
6	20	entropy	50	10	log2	55.88	55.87	53.77
7	20	entropy	100	10	auto	55.87	55.95	53.76
8	25	entropy	50	30	auto	55.98	55.87	53.76
9	25	entropy	100	20	log2	56.21	55.22	53.76
10	25	entropy	100	20	log2	55.88	56.04	53.76
Neural Net								
Iterate	# Vars	Hidden_ Layer_Size	Max Iteration	Learning Rate		Train	Test	Oot
1	20	20	20	constant		55.87	55.79	53.74
2	25	10	100	invscaling		55.82	55.81	53.74
3	25	20	100	constant		56.02	55.38	53.74

4	25	20	20	constant	56.02	55.44	53.73	
5	25	20	20	adaptive	55.92	55.65	53.73	
6	20	5	100	invscaling	56.02	55.37	53.72	
7	20	10	50	constant	55.95	55.56	53.72	
8	25	10	50	constant	55.91	55.6	53.72	
9	25	10	100	constant	55.72	56.14	53.72	
10	20	20	50	constant	56.03	55.3	53.7	
Decision Tree								
Iterate	# Vars	Criterion	Splitter	Max Depth	Min_Sampl es_Leaf	Train	Test	Oot
1	15	entropy	best	10	40	55.91	55.85	53.91
2	15	gini	best	None	30	55.55	56.64	53.84
3	15	entropy	best	20	20	55.85	56	53.84
4	10	gini	random	10	20	55.88	55.76	53.83
5	10	entropy	best	10	30	55.91	55.81	53.83
6	15	entropy	best	None	20	55.99	55.77	53.83
7	25	entropy	best	10	40	55.72	56.19	53.83
8	10	entropy	best	10	40	55.89	55.86	53.81
9	15	gini	best	20	20	55.95	55.72	53.81
10	25	entropy	best	20	20	55.78	56.22	53.81
XGBoost (New Model)								
Iterate	# Vars	# Estimators	Learning Rate	Max Depth		Train	Test	Oot
1	20	200	0.05	3		55.85	56	53.86
2	25	100	0.05	5		55.79	56.26	53.86
3	25	100	0.4	4		56.01	55.85	53.86
4	25	150	0.05	5		55.9	56.05	53.86
5	25	200	0.3	5		55.77	56.38	53.86
6	20	80	0.3	3		55.75	56.33	53.83
7	20	80	0.4	5		55.91	55.97	53.83
8	20	200	0.3	4		55.87	56.07	53.83
9	25	80	0.05	5		55.88	55.99	53.83
10	25	80	0.4	5		56.05	55.65	53.83