

Machine Learning Exercise

Creation Date: Monday, November 27, 2023 06:25:47 PM

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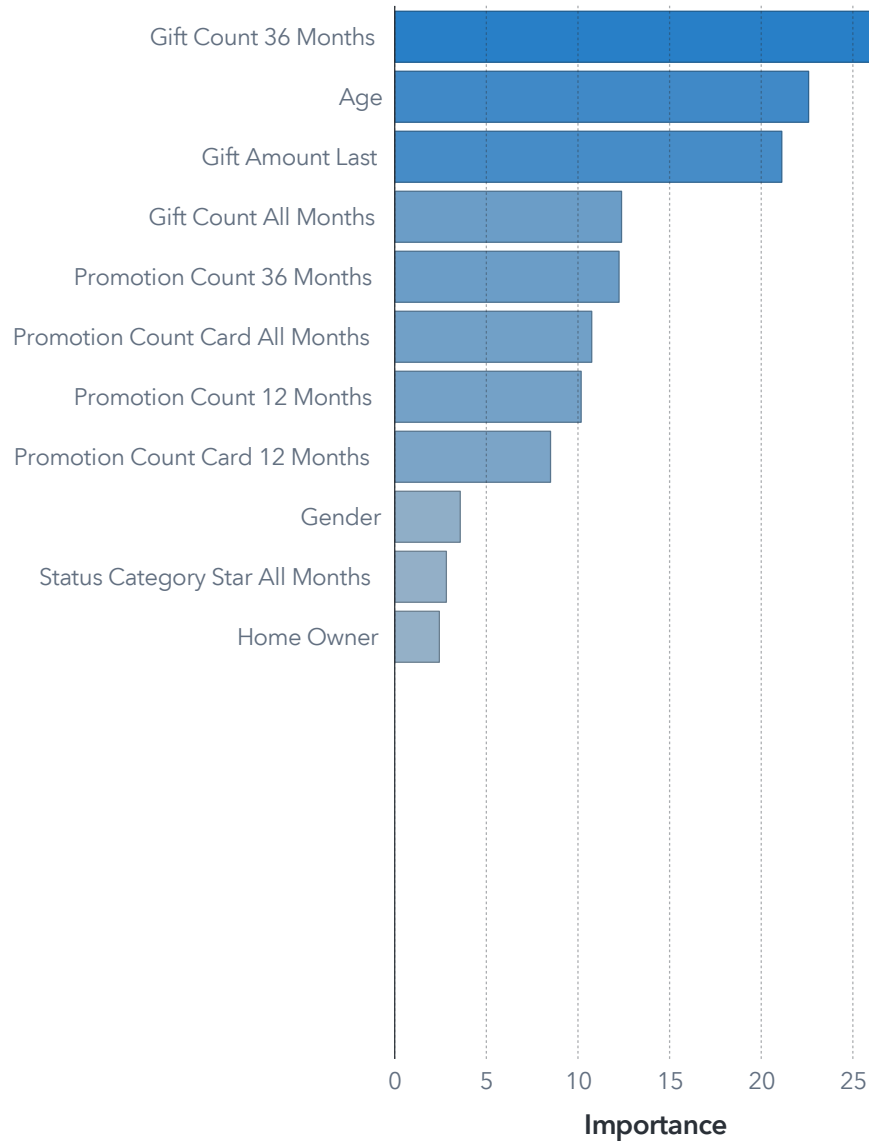
 Gradient boosting - Target Gift Flag 1 Supplement 4 6

GradBoosting



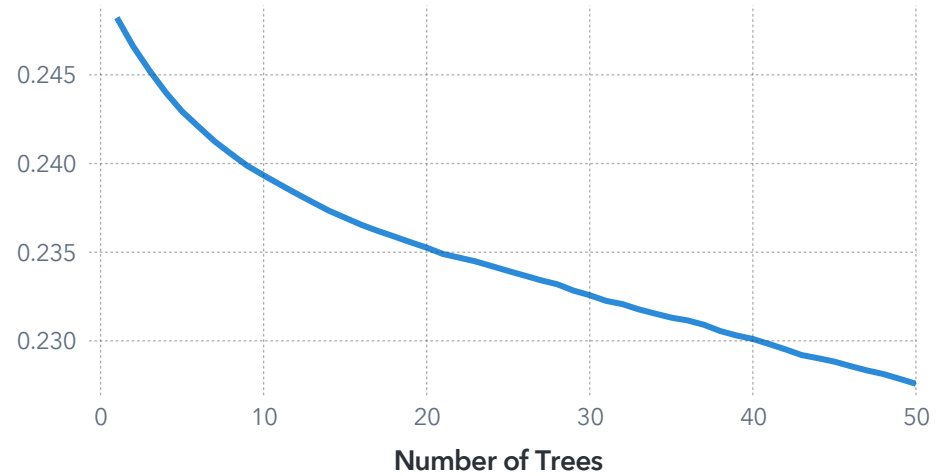
Gradient Boosting **Target Gift Flag** ASE **0.2276** Observations Used **106,546**

Variable Importance



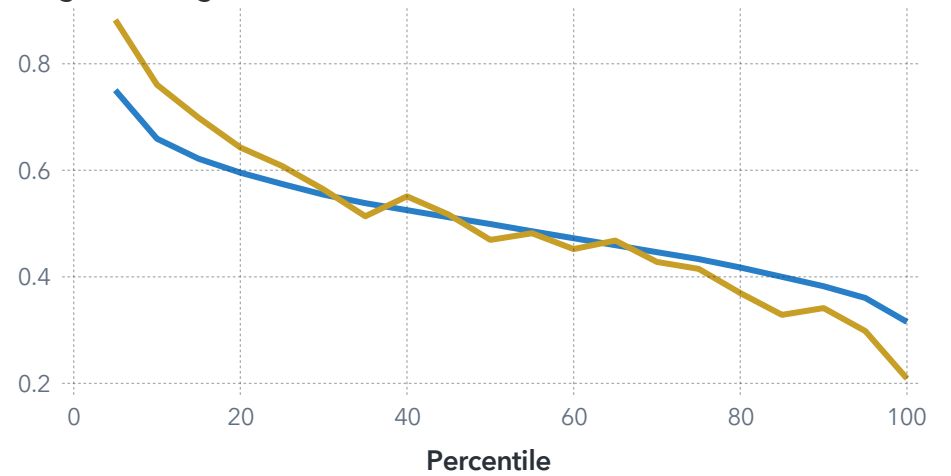
Iteration Plot

Average Squared Error



Assessment

Target Gift Flag



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Number of Trees	Average Squared Error
1	0.2482
2	0.2466
3	0.2452
4	0.2440
5	0.2429
6	0.2421
7	0.2412
8	0.2405
9	0.2399
10	0.2393
11	0.2388
12	0.2383
13	0.2378
14	0.2373
15	0.2369
16	0.2365
17	0.2362
18	0.2359
19	0.2356
20	0.2353
21	0.2349
22	0.2347
23	0.2345
24	0.2342
25	0.2339
26	0.2337
27	0.2334
28	0.2332
29	0.2328
30	0.2326

Number of Trees	Average Squared Error
31	0.2323
32	0.2321
33	0.2318
34	0.2315
35	0.2313
36	0.2312
37	0.2309
38	0.2306
39	0.2303
40	0.2301
41	0.2298
42	0.2295
43	0.2292
44	0.2290
45	0.2288
46	0.2286
47	0.2283
48	0.2281
49	0.2279
50	0.2276

Percentile	Observations	Predicted Average	Observed Average
5	5328	0.7503858148	0.8823198198
10	5328	0.659213642	0.7605105105
15	5328	0.621627683	0.6985735736
20	5328	0.5955580733	0.6428303303
25	5328	0.5743650889	0.6081081081
30	5328	0.5542409343	0.5640015015
35	5328	0.5383316592	0.5137012012
40	5328	0.5251304885	0.5510510511
45	5328	0.5118967949	0.5168918919
50	5328	0.4991116969	0.4694069069
55	5328	0.4856121872	0.4817942943
60	5328	0.4724411	0.4521396396
65	5328	0.4594418311	0.4680930931
70	5328	0.4462713466	0.4279279279
75	5328	0.4333642067	0.4149774775
80	5328	0.4175180482	0.3695570571
85	5328	0.4000291925	0.3286411411
90	5328	0.3823474414	0.3414039039
95	5328	0.360365927	0.2982357357
100	5314	0.3153804667	0.2090703801

