Boosting Algorithm

1. Adabooster: r_score = 0.9944638959891104
2. XG Boost: r_score = 0.9995066032879188 (with default hyper parameters)
3. LGBM: r_score=0.9975279656914333 (with default hyper parameters)

Adabooster Hyper Parameters

N_estimators	loss	R_score
100	sqaure	0.9974272266807488
300	Square	0.9982194302678072
500	Square	0.9987089658386255
700	Square	0.9987787981103786
900	Square	0.9987590243269783
1000	square	0.998771034087646
100	exponential	0.9957939742376949
300	exponential	0.9943914836504079
500	exponential	0.9928133504964397
700	exponential	0.9917016395492494
900	exponential	0.9918174615268448
1000	exponential	0.9912306690612741

XG Boost

N_estimators	Max_depth	eta	subsample	Col_sample by tree	R_score
100	1	0.3	1	1	0.9961286452568703
300	1	0.3	1	1	0.9974134773235594
500	1	0.3	1	1	0.9979122670377754
700	1	0.3	1	1	0.9982146387744232

900	1	0.3	1	1	0.9984270988317268
1000	1	0.3	1	1	0.9985087462108323

LGBM Hyper parameters

Num_leaves	Max_depth	Min data in leaf	R_score
70	1	20	0.9973631924360851
70	1	30	0.9978740692596416
70	1	40	0.9962849574099261
70	1	35	0.9957410587824093
70	1	32	0.9976994492692319