Model Metrics

1.0 Features

	c	si	mn	p	s	ni	cr	mo	cu	v	al	n	nb+ta	temp	yield
0	0.12	0.36	0.52	0.009	0.003	0.089	0.97	0.61	0.04	0.0	0.003	0.0066	0.0	27	342
1	0.12	0.36	0.52	0.009	0.003	0.089	0.97	0.61	0.04	0.0	0.003	0.0066	0.0	100	338
2	0.12	0.36	0.52	0.009	0.003	0.089	0.97	0.61	0.04	0.0	0.003	0.0066	0.0	200	337
3	0.12	0.36	0.52	0.009	0.003	0.089	0.97	0.61	0.04	0.0	0.003	0.0066	0.0	300	346
4	0.12	0.36	0.52	0.009	0.003	0.089	0.97	0.61	0.04	0.0	0.003	0.0066	0.0	400	316

2.0 Model Parameters and Hyperparameters

Default CatBoostRegressor:

	Parameters
border_count	254
loss_function	RMSE
random_state	123
task_type	CPU
verbose	False

Light Gradient Boosting Machine

	Parameter
boosting_type	gbdt
class_weight	None
colsample_bytree	1.0
importance_type	split
learning_rate	0.146154
max_depth	20
min_child_samples	20
min_child_weight	0.001
min_split_gain	0.0
n_estimators	250
n_jobs	-1
num_leaves	10
objective	None
random_state	123
reg_alpha	0.0
reg_lambda	0.0
silent	warn

Parameter	
subsample	1.0
subsample_for_bin	200000
subsample_freq	0

Extra Trees Regressor:

Parameters	
bootstrap	False
ccp_alpha	0.0
criterion	squared_error
max_depth	30
max_features	auto
max_leaf_nodes	None
max_samples	None
min_impurity_decrease	0.0
min_samples_leaf	1
min_samples_split	2
min_weight_fraction_leaf	0.0

Parameters	
n_estimators	50
n_jobs	-1

2.0 Model Metrics

		Default CatBoost	LGBM	ExtraTrees	VotingRegressor
Train	R2	0.998044	0.986322	1.000000	0.995992
	MAE	4.381501	9.080485	0.000000	4.900786
	MSE	34.055890	238.139747	0.000000	69.780124
	RMSE	5.835742	15.431777	0.000000	8.353450
Valid	R2	0.983944	0.984409	0.980502	0.984848
	MAE	12.452790	13.747364	15.825161	12.806167
	MSE	311.425003	302.396771	378.172942	293.880018
	RMSE	17.647238	17.389559	0.000000	17.142929
Test	R2	0.927087	0.922131	0.915245	0.925964
	MAE	16.969241	17.678655	19.434355	16.718535
	MSE	1303.243063	1391.827466	1514.920068	1323.327423
	RMSE	36.100458	37.307204	38.921974	36.377568
CV entire	R2	0.956715	0.952926	0.949208	0.955694
	MAE	14.185969	15.480849	16.849843	14.506706
	MSE	762.429021	832.715355	900.497985	782.816041
	RMSE	27.612117	28.856808	30.008299	27.978850