

2. b)

In the plots, the three most important hyperparameters are `colsample_bytree`, `min_child_samples` and `subsample`. `colsample_bytree` and `subsample` have values concentrated to the upper end of the scale where `min_child_samples` are in the lower end. Thus, to adjust the search ranges for these hyperparameters I would increase the higher limit of `colsample_bytree` and `subsample` and decrease the lower limit of `min_child_samples`.

2. c)

Experiments

Search Experiments

☐ Default

☐ Kubeflow Pipeline test run

☐ week 1 lgbm-bike-demand

☒ lgbm-wine-2

lgbm-wine-2

Experiment ID: 5 Artifact Location: s3://mlflow/5

Description Edit

Q metrics.rmse < 1 and params.model = "tree"

Time created

State: Active

Sort: Created

Columns

+ New run

Table		Chart	Evaluation	Experimental						
Run Name	Created	Dataset	Duration	Source	Models	Parameters	colsample_bytree	learning_rate	min_child_samp	num_leav
19	9 seconds ago	-	3.6s	ipykernel...	optuna-lgb...	0.62527222...	0.01707091...	8	876	
18	11 seconds ago	-	137ms	ipykernel...	-	0.38252283...	0.00316272...	17	578	
17	12 seconds ago	-	139ms	ipykernel...	-	0.86597521...	0.01053337...	10	853	
16	13 seconds ago	-	137ms	ipykernel...	-	0.63547227...	0.00436839...	5	591	
15	15 seconds ago	-	144ms	ipykernel...	-	0.99621570...	0.08538648...	7	821	
14	17 seconds ago	-	313ms	ipykernel...	-	0.99640542...	0.01044300...	8	966	
13	19 seconds ago	-	136ms	ipykernel...	-	0.99616033...	0.00670896...	5	702	
12	21 seconds ago	-	144ms	ipykernel...	-	0.69197695...	0.00561559...	5	754	
11	23 seconds ago	-	145ms	ipykernel...	-	0.72691680...	0.00558810...	6	757	
10	26 seconds ago	-	130ms	ipykernel...	-	0.71131191...	0.00560987...	5	668	
9	28 seconds ago	-	156ms	ipykernel...	-	0.08266909...	0.00175418...	19	266	
8	29 seconds ago	-	148ms	ipykernel...	-	0.14278950...	0.04138040...	15	452	
7	30 seconds ago	-	136ms	ipykernel...	-	0.11179901...	0.01640928...	20	989	
6	30 seconds ago	-	149ms	ipykernel...	-	0.53852271...	0.03718364...	14	49	
5	31 seconds ago	-	154ms	ipykernel...	-	0.32753741...	0.01677808...	10	468	
4	32 seconds ago	-	169ms	ipykernel...	-	0.54851861...	0.00232706...	11	299	
3	32 seconds ago	-	134ms	ipykernel...	-	0.84082050...	0.00109943...	8	188	
2	34 seconds ago	-	136ms	ipykernel...	-	0.87286733...	0.00205111...	14	726	
1	35 seconds ago	-	135ms	ipykernel...	-	0.74539424...	0.00561151...	14	161	
0	36 seconds ago	-	156ms	ipykernel...	-	0.41079616...	0.02967900...	20	181	

3. b)

mlflow 2.9.2 Experiments Models

lgbm-wine-2 19

Run ID: fsf1755c1dc14ee8a6c7cf5b0844f232 Date: 2024-11-24 13:33:09 Source: ipykernel.Launcher.py User: kaisaeiko Duration: 3.6s

Status: FINISHED Lifecycle Stage: active

Description Edit

Datasets

Parameters (5)

Metrics (1)

Tags (10)

Artifacts

optuna-lgbm-wine

Full Path: s3://mlflow/5/fsf1755c1dc14ee8a6c7cf5b0844f232/artifacts/optuna-lgbm-wine

MLflow Model

The code snippets below demonstrate how to make predictions using the logged model. This model is also registered to the model registry.

mlflow 2.9.2 Experiments Models

Registered Models Version 8

Registered At: 2024-11-24 13:33:13 Stage: None Last Modified: 2024-11-24 13:33:13 Source Run: 19

Description Edit