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1 "C:\Users\Shyam Banerjee\AppData\Local\Programs\Python\Python312\python.exe" "C:\Users\Shyam Banerjee\Desktop\GitHub\trilytics_25_z_fighters\Z
fighter_code.py"
2 [I 2025-08-06 22:10:41,915] A new study created in
memory with name: no-name-c060b9c7-8d5c-4c18-b705-
29d785110a1c
3 Training until validation scores don't improve for 50
rounds
4 Did not meet early stopping. Best iteration is:
5 [1000] valid_0's mape: 0.301682
6 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python\Python312\Lib\site-packages\sklearn\utils\validation
.py:2739: UserWarning: X does not have valid feature
names, but LGBMRegressor was fitted with feature
names
7 warnings.warn(
8 [I 2025-08-06 22:10:46,156] Trial 0 finished with
value: 0.3016817683794016 and parameters: {'boosting_type': 'gbdt', 'learning_rate': 0.
004780682952678336, 'num_leaves': 92, 'max_depth': 5
, 'min_child_samples': 31, 'colsample_bytree': 0.
8656238942655496, 'reg_alpha': 2.949820308250949, 'reg_lambda': 7.7833206402751625}. Best is trial 0
with value: 0.3016817683794016.
9 Training until validation scores don't improve for 50
rounds
10 Did not meet early stopping. Best iteration is:
11 [1000] valid_0's mape: 0.390725
12 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python\Python312\Lib\site-packages\sklearn\utils\validation
.py:2739: UserWarning: X does not have valid feature
names, but LGBMRegressor was fitted with feature
names
13 warnings.warn(
14 [I 2025-08-06 22:10:49,122] Trial 1 finished with
value: 0.3907251871513635 and parameters: {'boosting_type': 'gbdt', 'learning_rate': 0.
0010468555571612208, 'num_leaves': 76, 'max_depth': 6
, 'min_child_samples': 18, 'colsample_bytree': 0.
7810362327285728, 'reg_alpha': 9.608598070023573, '
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14 reg_lambda': 4.807423969030015}. Best is trial 0 with
    value: 0.3016817683794016.
15 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
    \Python312\Lib\site-packages\lightgbm\callback.py:333
        : UserWarning: Early stopping is not available in
        dart mode
16     _log_warning("Early stopping is not available in
        dart mode")
17 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
    \Python312\Lib\site-packages\sklearn\utils\validation
    .py:2739: UserWarning: X does not have valid feature
    names, but LGBMRegressor was fitted with feature
    names
18     warnings.warn(
19 [I 2025-08-06 22:10:55,998] Trial 2 finished with
    value: 0.29363205674231646 and parameters: {'boosting_type': 'dart', 'learning_rate': 0.
    09754714203386405, 'num_leaves': 14, 'max_depth': 13
    , 'min_child_samples': 96, 'colsample_bytree': 0.
    44346961688191355, 'reg_alpha': 0.46132057290203643
    , 'reg_lambda': 0.953493644186254}. Best is trial 2
    with value: 0.29363205674231646.
20 Training until validation scores don't improve for 50
    rounds
21 Early stopping, best iteration is:
22 [297] valid_0's mape: 0.289905
23 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
    \Python312\Lib\site-packages\sklearn\utils\validation
    .py:2739: UserWarning: X does not have valid feature
    names, but LGBMRegressor was fitted with feature
    names
24     warnings.warn(
25 [I 2025-08-06 22:10:57,568] Trial 3 finished with
    value: 0.2899047605940539 and parameters: {'boosting_type': 'gbdt', 'learning_rate': 0.
    044203402126506294, 'num_leaves': 58, 'max_depth': 7
    , 'min_child_samples': 91, 'colsample_bytree': 0.
    663890890640717, 'reg_alpha': 0.15711866482302939, 'reg_lambda': 2.421503594122666}. Best is trial 3 with
    value: 0.2899047605940539.
26 Training until validation scores don't improve for 50
```

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26 rounds
27 Early stopping, best iteration is:
28 [549] valid_0's mape: 0.279609
29 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
  \Python312\Lib\site-packages\sklearn\utils\validation
    .py:2739: UserWarning: X does not have valid feature
      names, but LGBMRegressor was fitted with feature
      names
30 warnings.warn(
31 [I 2025-08-06 22:10:59,407] Trial 4 finished with
  value: 0.2796090293080155 and parameters: {
    'boosting_type': 'gbdt', 'learning_rate': 0.
    07675876937901463, 'num_leaves': 62, 'max_depth': 8
    , 'min_child_samples': 51, 'colsample_bytree': 0.
    5413523814849233, 'reg_alpha': 5.538001422784865, 'reg_lambda': 3.430489238633757}. Best is trial 4 with
  value: 0.2796090293080155.
32 Training until validation scores don't improve for 50
  rounds
33 Did not meet early stopping. Best iteration is:
34 [1000] valid_0's mape: 0.291354
35 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
  \Python312\Lib\site-packages\sklearn\utils\validation
    .py:2739: UserWarning: X does not have valid feature
      names, but LGBMRegressor was fitted with feature
      names
36 warnings.warn(
37 [I 2025-08-06 22:11:03,155] Trial 5 finished with
  value: 0.29135437789500335 and parameters: {
    'boosting_type': 'gbdt', 'learning_rate': 0.
    004375903903495142, 'num_leaves': 99, 'max_depth': 7
    , 'min_child_samples': 89, 'colsample_bytree': 0.
    9660039673617864, 'reg_alpha': 5.9190381721617165, 'reg_lambda': 7.379506372586664}. Best is trial 4 with
  value: 0.2796090293080155.
38 Training until validation scores don't improve for 50
  rounds
39 Early stopping, best iteration is:
40 [733] valid_0's mape: 0.252335
41 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
  \Python312\Lib\site-packages\sklearn\utils\validation
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41 .py:2739: UserWarning: X does not have valid feature
   names, but LGBMRegressor was fitted with feature
   names
42     warnings.warn(
43 [I 2025-08-06 22:11:07,009] Trial 6 finished with
   value: 0.25233527865707706 and parameters: {
   'boosting_type': 'gbdt', 'learning_rate': 0.
   03336284082089145, 'num_leaves': 86, 'max_depth': 12
   , 'min_child_samples': 24, 'colsample_bytree': 0.
   7638881510535331, 'reg_alpha': 3.4704662979147227, '
   reg_lambda': 6.9930395880113}. Best is trial 6 with
   value: 0.25233527865707706.
44 Training until validation scores don't improve for 50
   rounds
45 Early stopping, best iteration is:
46 [494]  valid_0's mape: 0.284832
47 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
   \Python312\Lib\site-packages\sklearn\utils\validation
   .py:2739: UserWarning: X does not have valid feature
   names, but LGBMRegressor was fitted with feature
   names
48     warnings.warn(
49 [I 2025-08-06 22:11:08,646] Trial 7 finished with
   value: 0.2848317622681583 and parameters: {
   'boosting_type': 'gbdt', 'learning_rate': 0.
   05160319762279087, 'num_leaves': 58, 'max_depth': 5
   , 'min_child_samples': 42, 'colsample_bytree': 0.
   8536857740042388, 'reg_alpha': 3.8131003405164146, '
   reg_lambda': 7.493512855872455}. Best is trial 6 with
   value: 0.25233527865707706.
50 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
   \Python312\Lib\site-packages\lightgbm\callback.py:333
   : UserWarning: Early stopping is not available in
   dart mode
51     _log_warning("Early stopping is not available in
   dart mode")
52 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
   \Python312\Lib\site-packages\sklearn\utils\validation
   .py:2739: UserWarning: X does not have valid feature
   names, but LGBMRegressor was fitted with feature
   names
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53     warnings.warn(
54 [I 2025-08-06 22:11:15,538] Trial 8 finished with
      value: 0.2584210418639626 and parameters: {
        'boosting_type': 'dart', 'learning_rate': 0.
          010944984696507083, 'num_leaves': 12, 'max_depth': 20
        , 'min_child_samples': 7, 'colsample_bytree': 0.
          9661063910282829, 'reg_alpha': 6.779761686283208, 'reg_lambda': 7.732334704621065}. Best is trial 6 with
      value: 0.25233527865707706.
55 Training until validation scores don't improve for 50
      rounds
56 Early stopping, best iteration is:
57 [521]   valid_0's mape: 0.251975
58 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
      \Python312\Lib\site-packages\sklearn\utils\validation
      .py:2739: UserWarning: X does not have valid feature
      names, but LGBMRegressor was fitted with feature
      names
59     warnings.warn(
60 [I 2025-08-06 22:11:18,629] Trial 9 finished with
      value: 0.25197459251419013 and parameters: {
        'boosting_type': 'gbdt', 'learning_rate': 0.
          07155599486768398, 'num_leaves': 51, 'max_depth': 17
        , 'min_child_samples': 47, 'colsample_bytree': 0.
          8675251812024289, 'reg_alpha': 8.916577608057148, 'reg_lambda': 4.297555487673287}. Best is trial 9 with
      value: 0.25197459251419013.
61 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
      \Python312\Lib\site-packages\lightgbm\callback.py:333
      : UserWarning: Early stopping is not available in
      dart mode
62     _log_warning("Early stopping is not available in
      dart mode")
63 C:\Users\Shyam Banerjee\AppData\Local\Programs\Python
      \Python312\Lib\site-packages\sklearn\utils\validation
      .py:2739: UserWarning: X does not have valid feature
      names, but LGBMRegressor was fitted with feature
      names
64     warnings.warn(
65 [I 2025-08-06 22:11:30,347] Trial 10 finished with
      value: 0.26815793813476735 and parameters: {'
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65 boosting_type': 'dart', 'learning_rate': 0.  
21813746505852832, 'num_leaves': 34, 'max_depth': 18  
, 'min_child_samples': 70, 'colsample_bytree': 0.  
6019578544677565, 'reg_alpha': 9.6598587008342, '  
reg_lambda': 9.637256602144141}. Best is trial 9  
with value: 0.25197459251419013.  
66 Training until validation scores don't improve for  
50 rounds  
67 Early stopping, best iteration is:  
68 [899] valid_0's mape: 0.259311  
69 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
70 warnings.warn(  
71 [I 2025-08-06 22:11:34,602] Trial 11 finished with  
value: 0.25931109594226687 and parameters: {'  
boosting_type': 'gbdt', 'learning_rate': 0.  
02236231717024541, 'num_leaves': 42, 'max_depth': 14  
, 'min_child_samples': 31, 'colsample_bytree': 0.  
7513232312804435, 'reg_alpha': 8.166013538636431, '  
reg_lambda': 5.453825028753267}. Best is trial 9  
with value: 0.25197459251419013.  
72 Training until validation scores don't improve for  
50 rounds  
73 Early stopping, best iteration is:  
74 [124] valid_0's mape: 0.269  
75 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
76 warnings.warn(  
77 [I 2025-08-06 22:11:36,266] Trial 12 finished with  
value: 0.2690001996218745 and parameters: {'  
boosting_type': 'gbdt', 'learning_rate': 0.  
2943258399544415, 'num_leaves': 79, 'max_depth': 15  
, 'min_child_samples': 67, 'colsample_bytree': 0.  
8444928531992997, 'reg_alpha': 2.4501016539286082, '  
reg_lambda': 5.453489794542106}. Best is trial 9
```

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77 with value: 0.25197459251419013.
78 Training until validation scores don't improve for
50 rounds
79 Did not meet early stopping. Best iteration is:
80 [999]    valid_0's mape: 0.264061
81 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\sklearn\utils\
validation.py:2739: UserWarning: X does not have
valid feature names, but LGBMRegressor was fitted
with feature names
82     warnings.warn(
83 [I 2025-08-06 22:11:39,893] Trial 13 finished with
value: 0.2640612211509727 and parameters: {
'boosting_type': 'gbdt', 'learning_rate': 0.
019687595229858447, 'num_leaves': 40, 'max_depth': 11, 'min_child_samples': 29, 'colsample_bytree': 0.
6991108327778965, 'reg_alpha': 4.354122798750811, 'reg_lambda': 3.508393401716602}. Best is trial 9
with value: 0.25197459251419013.
84 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\lightgbm\callback
.py:333: UserWarning: Early stopping is not
available in dart mode
85     _log_warning("Early stopping is not available in
dart mode")
86 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\sklearn\utils\
validation.py:2739: UserWarning: X does not have
valid feature names, but LGBMRegressor was fitted
with feature names
87     warnings.warn(
88 [I 2025-08-06 22:11:56,938] Trial 14 finished with
value: 0.24391843106364633 and parameters: {
'boosting_type': 'dart', 'learning_rate': 0.
15532341327101173, 'num_leaves': 75, 'max_depth': 17
, 'min_child_samples': 66, 'colsample_bytree': 0.
9043267049168383, 'reg_alpha': 7.718063052560014, 'reg_lambda': 9.693470662357246}. Best is trial 14
with value: 0.24391843106364633.
89 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\lightgbm\callback
```

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89 .py:333: UserWarning: Early stopping is not
available in dart mode
90     _log_warning("Early stopping is not available in
dart mode")
91 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\sklearn\utils\
validation.py:2739: UserWarning: X does not have
valid feature names, but LGBMRegressor was fitted
with feature names
92     warnings.warn(
93 [I 2025-08-06 22:12:13,382] Trial 15 finished with
value: 0.2459890541159956 and parameters: {
'boosting_type': 'dart', 'learning_rate': 0.
13641646201022026, 'num_leaves': 70, 'max_depth': 17
, 'min_child_samples': 70, 'colsample_bytree': 0.
9116467159997707, 'reg_alpha': 7.830401796756163, 'reg_lambda': 9.818670858531275}. Best is trial 14
with value: 0.24391843106364633.
94 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\lightgbm\callback
.py:333: UserWarning: Early stopping is not
available in dart mode
95     _log_warning("Early stopping is not available in
dart mode")
96 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\sklearn\utils\
validation.py:2739: UserWarning: X does not have
valid feature names, but LGBMRegressor was fitted
with feature names
97     warnings.warn(
98 [I 2025-08-06 22:12:29,340] Trial 16 finished with
value: 0.24025657405277076 and parameters: {
'boosting_type': 'dart', 'learning_rate': 0.
18119144713424248, 'num_leaves': 68, 'max_depth': 20
, 'min_child_samples': 68, 'colsample_bytree': 0.
9932480058319331, 'reg_alpha': 7.3766535696256295, 'reg_lambda': 9.921390268201396}. Best is trial 16
with value: 0.24025657405277076.
99 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\lightgbm\callback
.py:333: UserWarning: Early stopping is not
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99 available in dart mode
100     _log_warning("Early stopping is not available in
101         dart mode")
101 C:\Users\Shyam Banerjee\AppData\Local\Programs\
102         Python\Python312\Lib\site-packages\sklearn\utils\
103         validation.py:2739: UserWarning: X does not have
104         valid feature names, but LGBMRegressor was fitted
105         with feature names
102     warnings.warn(
103 [I 2025-08-06 22:12:46,981] Trial 17 finished with
104         value: 0.24171370432811368 and parameters: {
105             'boosting_type': 'dart', 'learning_rate': 0.
106             19067606711597043, 'num_leaves': 69, 'max_depth': 19
107             , 'min_child_samples': 80, 'colsample_bytree': 0.
108             9961628340412925, 'reg_alpha': 7.067119233457291, '
109             reg_lambda': 8.8411800750597}. Best is trial 16 with
106         value: 0.24025657405277076.
104 C:\Users\Shyam Banerjee\AppData\Local\Programs\
105         Python\Python312\Lib\site-packages\lightgbm\callback
106         .py:333: UserWarning: Early stopping is not
107         available in dart mode
105     _log_warning("Early stopping is not available in
106         dart mode")
106 C:\Users\Shyam Banerjee\AppData\Local\Programs\
107         Python\Python312\Lib\site-packages\sklearn\utils\
108         validation.py:2739: UserWarning: X does not have
109         valid feature names, but LGBMRegressor was fitted
106         with feature names
107     warnings.warn(
108 [I 2025-08-06 22:13:04,643] Trial 18 finished with
109         value: 0.24257886716368127 and parameters: {
110             'boosting_type': 'dart', 'learning_rate': 0.
111             19476398483492044, 'num_leaves': 67, 'max_depth': 20
112             , 'min_child_samples': 81, 'colsample_bytree': 0.
113             9917268353044257, 'reg_alpha': 6.584914298412677, '
114             reg_lambda': 8.672912126204793}. Best is trial 16
115             with value: 0.24025657405277076.
109 C:\Users\Shyam Banerjee\AppData\Local\Programs\
110         Python\Python312\Lib\site-packages\lightgbm\callback
111         .py:333: UserWarning: Early stopping is not
112         available in dart mode
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110     _log_warning("Early stopping is not available in
111     dart mode")
112 C:\Users\Shyam Banerjee\AppData\Local\Programs\
113     Python\Python312\Lib\site-packages\sklearn\utils\
114     validation.py:2739: UserWarning: X does not have
115     valid feature names, but LGBMRegressor was fitted
116     with feature names
117     warnings.warn(
118 [I 2025-08-06 22:13:15,442] Trial 19 finished with
119     value: 0.2372613769880356 and parameters: {
120         'boosting_type': 'dart', 'learning_rate': 0.
121         01011574228138802, 'num_leaves': 25, 'max_depth': 10
122         , 'min_child_samples': 81, 'colsample_bytree': 0.
123         9304394406256775, 'reg_alpha': 4.9620324665117055, '
124         'reg_lambda': 6.327799010193697}. Best is trial 19
125     with value: 0.2372613769880356.
126 C:\Users\Shyam Banerjee\AppData\Local\Programs\
127     Python\Python312\Lib\site-packages\lightgbm\callback
128     .py:333: UserWarning: Early stopping is not
129     available in dart mode
130     _log_warning("Early stopping is not available in
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120 dart mode")
121 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\sklearn\utils\
        validation.py:2739: UserWarning: X does not have
            valid feature names, but LGBMRegressor was fitted
            with feature names
122     warnings.warn(
123 [I 2025-08-06 22:13:35,389] Trial 21 finished with
    value: 0.24177274565651943 and parameters: {
        'boosting_type': 'dart', 'learning_rate': 0.
        006663953297192343, 'num_leaves': 24, 'max_depth':
        10, 'min_child_samples': 58, 'colsample_bytree': 0.
        9298105939778254, 'reg_alpha': 1.6581253192997325, '
        reg_lambda': 5.9774763178492885}. Best is trial 19
    with value: 0.2372613769880356.
124 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\lightgbm\callback
        .py:333: UserWarning: Early stopping is not
            available in dart mode
125     _log_warning("Early stopping is not available in
        dart mode")
126 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\sklearn\utils\
        validation.py:2739: UserWarning: X does not have
            valid feature names, but LGBMRegressor was fitted
            with feature names
127     warnings.warn(
128 [I 2025-08-06 22:13:45,376] Trial 22 finished with
    value: 0.24203509721504546 and parameters: {
        'boosting_type': 'dart', 'learning_rate': 0.
        010005579023488132, 'num_leaves': 24, 'max_depth':
        10, 'min_child_samples': 80, 'colsample_bytree': 0.
        7940040850689974, 'reg_alpha': 4.822695569203207, '
        reg_lambda': 6.083188757131626}. Best is trial 19
    with value: 0.2372613769880356.
129 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\lightgbm\callback
        .py:333: UserWarning: Early stopping is not
            available in dart mode
130     _log_warning("Early stopping is not available in
        dart mode")
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131 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
132     warnings.warn(  
133 [I 2025-08-06 22:13:57,054] Trial 23 finished with  
value: 0.3744239095323102 and parameters: {'  
boosting_type': 'dart', 'learning_rate': 0.  
002433412389055731, 'num_leaves': 25, 'max_depth': 9  
, 'min_child_samples': 61, 'colsample_bytree': 0.  
9395865498467348, 'reg_alpha': 1.7335314538325854, '  
reg_lambda': 6.889086045170834}. Best is trial 19  
with value: 0.2372613769880356.  
134 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
available in dart mode  
135     _log_warning("Early stopping is not available in  
dart mode")  
136 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
137     warnings.warn(  
138 [I 2025-08-06 22:14:11,120] Trial 24 finished with  
value: 0.23139858541725628 and parameters: {'  
boosting_type': 'dart', 'learning_rate': 0.  
011005004386081391, 'num_leaves': 51, 'max_depth':  
14, 'min_child_samples': 75, 'colsample_bytree': 0.  
8292806507183942, 'reg_alpha': 5.598570589727301, '  
reg_lambda': 1.3848687597237874}. Best is trial 24  
with value: 0.23139858541725628.  
139 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
available in dart mode  
140     _log_warning("Early stopping is not available in  
dart mode")  
141 C:\Users\Shyam Banerjee\AppData\Local\Programs\
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141 Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
142     warnings.warn(  
143 [I 2025-08-06 22:14:15,743] Trial 25 finished with  
value: 0.2899759477108123 and parameters: {'  
boosting_type': 'dart', 'learning_rate': 0.  
011769964209959148, 'num_leaves': 33, 'max_depth': 3  
, 'min_child_samples': 85, 'colsample_bytree': 0.  
8123833524729787, 'reg_alpha': 5.4216702692561825, '  
reg_lambda': 0.30143753131022}. Best is trial 24  
with value: 0.23139858541725628.  
144 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
available in dart mode  
145     _log_warning("Early stopping is not available in  
dart mode")  
146 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
147     warnings.warn(  
148 [I 2025-08-06 22:14:30,562] Trial 26 finished with  
value: 0.37627153103997146 and parameters: {'  
boosting_type': 'dart', 'learning_rate': 0.  
002429794865252446, 'num_leaves': 49, 'max_depth':  
14, 'min_child_samples': 74, 'colsample_bytree': 0.  
8897615815434048, 'reg_alpha': 4.440546352834174, '  
reg_lambda': 2.102625181039299}. Best is trial 24  
with value: 0.23139858541725628.  
149 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
available in dart mode  
150     _log_warning("Early stopping is not available in  
dart mode")  
151 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\
```

```
151 validation.py:2739: UserWarning: X does not have
    valid feature names, but LGBMRegressor was fitted
    with feature names
152     warnings.warn(
153 [I 2025-08-06 22:14:39,834] Trial 27 finished with
    value: 0.24626234775298025 and parameters: {
        'boosting_type': 'dart', 'learning_rate': 0.
        0067453704883579674, 'num_leaves': 18, 'max_depth': 12,
        'min_child_samples': 100, 'colsample_bytree': 0.
        7292230689233248, 'reg_alpha': 6.323732188594322, 'reg_lambda': 4.2497899454167865}. Best is trial 24
    with value: 0.23139858541725628.
154 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\lightgbm\callback
    .py:333: UserWarning: Early stopping is not
    available in dart mode
155     _log_warning("Early stopping is not available in
    dart mode")
156 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\sklearn\utils\
    validation.py:2739: UserWarning: X does not have
    valid feature names, but LGBMRegressor was fitted
    with feature names
157     warnings.warn(
158 [I 2025-08-06 22:14:51,530] Trial 28 finished with
    value: 0.24157709505179575 and parameters: {
        'boosting_type': 'dart', 'learning_rate': 0.
        014559266793845532, 'num_leaves': 31, 'max_depth': 10,
        'min_child_samples': 57, 'colsample_bytree': 0.
        840953145301418, 'reg_alpha': 1.077290903675662, 'reg_lambda': 6.41444349143398}. Best is trial 24
    with value: 0.23139858541725628.
159 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\lightgbm\callback
    .py:333: UserWarning: Early stopping is not
    available in dart mode
160     _log_warning("Early stopping is not available in
    dart mode")
161 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\sklearn\utils\
    validation.py:2739: UserWarning: X does not have
```

```
161 valid feature names, but LGBMRegressor was fitted
    with feature names
162     warnings.warn(
163 [I 2025-08-06 22:15:05,086] Trial 29 finished with
    value: 0.2974614757666455 and parameters: {'  

        boosting_type': 'dart', 'learning_rate': 0.  

        00361198157944128, 'num_leaves': 42, 'max_depth': 15  

        , 'min_child_samples': 39, 'colsample_bytree': 0.  

        8154542610134942, 'reg_alpha': 3.834105843225911, '  

        reg_lambda': 2.294576891900291}. Best is trial 24
    with value: 0.23139858541725628.
164 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\lightgbm\callback
    .py:333: UserWarning: Early stopping is not
    available in dart mode
165     _log_warning("Early stopping is not available in
        dart mode")
166 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\sklearn\utils\
    validation.py:2739: UserWarning: X does not have
    valid feature names, but LGBMRegressor was fitted
    with feature names
167     warnings.warn(
168 [I 2025-08-06 22:15:14,599] Trial 30 finished with
    value: 0.2593023852745798 and parameters: {'  

        boosting_type': 'dart', 'learning_rate': 0.  

        025877459086057913, 'num_leaves': 19, 'max_depth':  

        11, 'min_child_samples': 74, 'colsample_bytree': 0.  

        89394340224347, 'reg_alpha': 2.6725692393861333, '  

        reg_lambda': 8.601869345475176}. Best is trial 24
    with value: 0.23139858541725628.
169 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\lightgbm\callback
    .py:333: UserWarning: Early stopping is not
    available in dart mode
170     _log_warning("Early stopping is not available in
        dart mode")
171 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\sklearn\utils\
    validation.py:2739: UserWarning: X does not have
    valid feature names, but LGBMRegressor was fitted
```

```
171 with feature names
172     warnings.warn(
173 [I 2025-08-06 22:15:27,916] Trial 31 finished with
    value: 0.23469182577083586 and parameters: {
        'boosting_type': 'dart', 'learning_rate': 0.
        0072099513963841755, 'num_leaves': 48, 'max_depth': 9,
        'min_child_samples': 62, 'colsample_bytree': 0.
        9474549373903374, 'reg_alpha': 7.345382208364399, 'reg_lambda': 1.3886693971603092}. Best is trial 24
    with value: 0.23139858541725628.
174 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\lightgbm\callback
    .py:333: UserWarning: Early stopping is not
    available in dart mode
175     _log_warning("Early stopping is not available in
    dart mode")
176 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\sklearn\utils\
    validation.py:2739: UserWarning: X does not have
    valid feature names, but LGBMRegressor was fitted
    with feature names
177     warnings.warn(
178 [I 2025-08-06 22:15:39,419] Trial 32 finished with
    value: 0.23400855047612684 and parameters: {
        'boosting_type': 'dart', 'learning_rate': 0.
        008372212206150111, 'num_leaves': 51, 'max_depth': 8,
        'min_child_samples': 61, 'colsample_bytree': 0.
        9386441332539753, 'reg_alpha': 8.445058876038786, 'reg_lambda': 1.0680790425491082}. Best is trial 24
    with value: 0.23139858541725628.
179 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\lightgbm\callback
    .py:333: UserWarning: Early stopping is not
    available in dart mode
180     _log_warning("Early stopping is not available in
    dart mode")
181 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\sklearn\utils\
    validation.py:2739: UserWarning: X does not have
    valid feature names, but LGBMRegressor was fitted
    with feature names
```

```
182     warnings.warn(
183 [I 2025-08-06 22:15:50,993] Trial 33 finished with
value: 0.24426827597810152 and parameters: {
boosting_type': 'dart', 'learning_rate': 0.
005972853081614776, 'num_leaves': 46, 'max_depth': 8
, 'min_child_samples': 51, 'colsample_bytree': 0.
9441525176554768, 'reg_alpha': 8.702099828304386, '
reg_lambda': 1.4201802221230129}. Best is trial 24
with value: 0.23139858541725628.
184 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\lightgbm\callback
.py:333: UserWarning: Early stopping is not
available in dart mode
185     _log_warning("Early stopping is not available in
dart mode")
186 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\sklearn\utils\
validation.py:2739: UserWarning: X does not have
valid feature names, but LGBMRegressor was fitted
with feature names
187     warnings.warn(
188 [I 2025-08-06 22:15:57,752] Trial 34 finished with
value: 0.46939598191119275 and parameters: {
boosting_type': 'dart', 'learning_rate': 0.
0013672796010355515, 'num_leaves': 54, 'max_depth': 5
, 'min_child_samples': 62, 'colsample_bytree': 0.
40929143417615715, 'reg_alpha': 8.776503445347236, '
reg_lambda': 0.24812242219427705}. Best is trial 24
with value: 0.23139858541725628.
189 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\lightgbm\callback
.py:333: UserWarning: Early stopping is not
available in dart mode
190     _log_warning("Early stopping is not available in
dart mode")
191 C:\Users\Shyam Banerjee\AppData\Local\Programs\
Python\Python312\Lib\site-packages\sklearn\utils\
validation.py:2739: UserWarning: X does not have
valid feature names, but LGBMRegressor was fitted
with feature names
192     warnings.warn(
```

```
193 [I 2025-08-06 22:16:09,256] Trial 35 finished with
    value: 0.24503412238869857 and parameters: {
        'boosting_type': 'dart', 'learning_rate': 0.
        016808006732966996, 'num_leaves': 60, 'max_depth': 8
        , 'min_child_samples': 76, 'colsample_bytree': 0.
        8755239839313371, 'reg_alpha': 5.279080549231796, '
        reg_lambda': 1.390794587155257}. Best is trial 24
        with value: 0.23139858541725628.
194 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\lightgbm\callback
    .py:333: UserWarning: Early stopping is not
    available in dart mode
195     _log_warning("Early stopping is not available in
        dart mode")
196 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\sklearn\utils\
    validation.py:2739: UserWarning: X does not have
    valid feature names, but LGBMRegressor was fitted
    with feature names
197     warnings.warn(
198 [I 2025-08-06 22:16:17,504] Trial 36 finished with
    value: 0.30186612234279003 and parameters: {
        'boosting_type': 'dart', 'learning_rate': 0.
        0035120398181058745, 'num_leaves': 48, 'max_depth': 6
        , 'min_child_samples': 91, 'colsample_bytree': 0.
        9621391427845893, 'reg_alpha': 8.251062825170681, '
        reg_lambda': 3.164078894830652}. Best is trial 24
        with value: 0.23139858541725628.
199 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\lightgbm\callback
    .py:333: UserWarning: Early stopping is not
    available in dart mode
200     _log_warning("Early stopping is not available in
        dart mode")
201 C:\Users\Shyam Banerjee\AppData\Local\Programs\
    Python\Python312\Lib\site-packages\sklearn\utils\
    validation.py:2739: UserWarning: X does not have
    valid feature names, but LGBMRegressor was fitted
    with feature names
202     warnings.warn(
203 [I 2025-08-06 22:16:33,998] Trial 37 finished with
```

```
203 value: 0.23253728008763025 and parameters: {'  
    boosting_type': 'dart', 'learning_rate': 0.  
    007495816893432909, 'num_leaves': 55, 'max_depth':  
    13, 'min_child_samples': 85, 'colsample_bytree': 0.  
    8306850985423324, 'reg_alpha': 6.245179439328262, '  
    reg_lambda': 1.0076328947119875}. Best is trial 24  
    with value: 0.23139858541725628.  
204 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
    Python\Python312\Lib\site-packages\lightgbm\callback  
    .py:333: UserWarning: Early stopping is not  
    available in dart mode  
205     _log_warning("Early stopping is not available in  
        dart mode")  
206 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
    Python\Python312\Lib\site-packages\sklearn\utils\  
    validation.py:2739: UserWarning: X does not have  
    valid feature names, but LGBMRegressor was fitted  
    with feature names  
207     warnings.warn(  
208 [I 2025-08-06 22:16:50,122] Trial 38 finished with  
    value: 0.25540009260054725 and parameters: {'  
    boosting_type': 'dart', 'learning_rate': 0.  
    005005764423056192, 'num_leaves': 54, 'max_depth':  
    13, 'min_child_samples': 88, 'colsample_bytree': 0.  
    6954067915953601, 'reg_alpha': 6.0398705343185135, '  
    reg_lambda': 0.9446847547321562}. Best is trial 24  
    with value: 0.23139858541725628.  
209 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
    Python\Python312\Lib\site-packages\lightgbm\callback  
    .py:333: UserWarning: Early stopping is not  
    available in dart mode  
210     _log_warning("Early stopping is not available in  
        dart mode")  
211 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
    Python\Python312\Lib\site-packages\sklearn\utils\  
    validation.py:2739: UserWarning: X does not have  
    valid feature names, but LGBMRegressor was fitted  
    with feature names  
212     warnings.warn(  
213 [I 2025-08-06 22:17:06,155] Trial 39 finished with  
    value: 0.23827988767660255 and parameters: {'
```

```
213 boosting_type': 'dart', 'learning_rate': 0.  
007888429691557751, 'num_leaves': 62, 'max_depth':  
13, 'min_child_samples': 93, 'colsample_bytree': 0.  
5243625869361404, 'reg_alpha': 9.973813075956429, '  
reg_lambda': 2.8010398477675325}. Best is trial 24  
with value: 0.23139858541725628.  
214 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
available in dart mode  
215     _log_warning("Early stopping is not available in  
     dart mode")  
216 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
217     warnings.warn(  
218 [I 2025-08-06 22:17:11,063] Trial 40 finished with  
value: 0.30100482336283874 and parameters: {'  
boosting_type': 'dart', 'learning_rate': 0.  
029186640850537397, 'num_leaves': 38, 'max_depth': 3  
, 'min_child_samples': 54, 'colsample_bytree': 0.  
6367889859862761, 'reg_alpha': 7.162281735298207, '  
reg_lambda': 1.8511511612607965}. Best is trial 24  
with value: 0.23139858541725628.  
219 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
available in dart mode  
220     _log_warning("Early stopping is not available in  
     dart mode")  
221 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
222     warnings.warn(  
223 [I 2025-08-06 22:17:24,552] Trial 41 finished with  
value: 0.2668899911872712 and parameters: {'  
boosting_type': 'dart', 'learning_rate': 0.
```

```
223 0045499682926454805, 'num_leaves': 44, 'max_depth':  
    9, 'min_child_samples': 85, 'colsample_bytree': 0.  
    8102529076226695, 'reg_alpha': 5.835707823773995, '  
    reg_lambda': 0.8307781988634042}. Best is trial 24  
    with value: 0.23139858541725628.  
224 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
    Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
    available in dart mode  
225     _log_warning("Early stopping is not available in  
    dart mode")  
226 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
    Python\Python312\Lib\site-packages\sklearn\utils\  
    validation.py:2739: UserWarning: X does not have  
    valid feature names, but LGBMRegressor was fitted  
    with feature names  
227     warnings.warn(  
228 [I 2025-08-06 22:17:34,589] Trial 42 finished with  
    value: 0.24979118333755962 and parameters: {'  
    boosting_type': 'dart', 'learning_rate': 0.  
    013891708421693693, 'num_leaves': 55, 'max_depth': 7  
    , 'min_child_samples': 77, 'colsample_bytree': 0.  
    8426370860686458, 'reg_alpha': 5.088633003485464, '  
    reg_lambda': 1.6735041699861337}. Best is trial 24  
    with value: 0.23139858541725628.  
229 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
    Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
    available in dart mode  
230     _log_warning("Early stopping is not available in  
    dart mode")  
231 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
    Python\Python312\Lib\site-packages\sklearn\utils\  
    validation.py:2739: UserWarning: X does not have  
    valid feature names, but LGBMRegressor was fitted  
    with feature names  
232     warnings.warn(  
233 [I 2025-08-06 22:17:47,883] Trial 43 finished with  
    value: 0.23729704844070604 and parameters: {'  
    boosting_type': 'dart', 'learning_rate': 0.  
    008657978539067706, 'num_leaves': 37, 'max_depth':
```

```
233 12, 'min_child_samples': 63, 'colsample_bytree': 0.  
7728012535684333, 'reg_alpha': 6.429249483463605, '  
reg_lambda': 0.6271558277924736}. Best is trial 24  
with value: 0.23139858541725628.  
234 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
available in dart mode  
235     _log_warning("Early stopping is not available in  
dart mode")  
236 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
237     warnings.warn(  
238 [I 2025-08-06 22:18:04,041] Trial 44 finished with  
value: 0.22782840073859378 and parameters: {'  
boosting_type': 'dart', 'learning_rate': 0.  
012841684962676242, 'num_leaves': 51, 'max_depth':  
15, 'min_child_samples': 98, 'colsample_bytree': 0.  
9619577500553605, 'reg_alpha': 9.236642347413127, '  
reg_lambda': 0.03725011165094383}. Best is trial 44  
with value: 0.22782840073859378.  
239 Training until validation scores don't improve for  
50 rounds  
240 Early stopping, best iteration is:  
241 [687] valid_0's mape: 0.249651  
242 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
243     warnings.warn(  
244 [I 2025-08-06 22:18:08,700] Trial 45 finished with  
value: 0.24965086104204556 and parameters: {'  
boosting_type': 'gbdt', 'learning_rate': 0.  
03730506624866804, 'num_leaves': 63, 'max_depth': 16  
, 'min_child_samples': 95, 'colsample_bytree': 0.  
966015295705496, 'reg_alpha': 9.201479707018844, '  
reg_lambda': 0.06830296773166633}. Best is trial 44
```

```
244 with value: 0.22782840073859378.  
245 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
available in dart mode  
246     _log_warning("Early stopping is not available in  
dart mode")  
247 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
248     warnings.warn(  
249 [I 2025-08-06 22:18:24,169] Trial 46 finished with  
value: 0.23124023104166824 and parameters: {'  
boosting_type': 'dart', 'learning_rate': 0.  
012738874984860094, 'num_leaves': 51, 'max_depth':  
15, 'min_child_samples': 100, 'colsample_bytree': 0.  
8754055571484967, 'reg_alpha': 8.25250592301741, '  
reg_lambda': 1.3130029537550378}. Best is trial 44  
with value: 0.22782840073859378.  
250 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\lightgbm\callback  
.py:333: UserWarning: Early stopping is not  
available in dart mode  
251     _log_warning("Early stopping is not available in  
dart mode")  
252 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
253     warnings.warn(  
254 [I 2025-08-06 22:18:40,628] Trial 47 finished with  
value: 0.2353010738741046 and parameters: {'  
boosting_type': 'dart', 'learning_rate': 0.  
02101038316293042, 'num_leaves': 57, 'max_depth': 15  
, 'min_child_samples': 100, 'colsample_bytree': 0.  
8763865683278457, 'reg_alpha': 9.309335354715124, '  
reg_lambda': 0.6623984003334676}. Best is trial 44  
with value: 0.22782840073859378.
```

```
255 Training until validation scores don't improve for
      50 rounds
256 Early stopping, best iteration is:
257 [648]    valid_0's mape: 0.267925
258 C:\Users\Shyam Banerjee\AppData\Local\Programs\
      Python\Python312\Lib\site-packages\sklearn\utils\
      validation.py:2739: UserWarning: X does not have
      valid feature names, but LGBMRegressor was fitted
      with feature names
259     warnings.warn(
260 [I 2025-08-06 22:18:44,572] Trial 48 finished with
      value: 0.2679252468755277 and parameters: {
      'boosting_type': 'gbdt', 'learning_rate': 0.
      012626668469497393, 'num_leaves': 52, 'max_depth':
      14, 'min_child_samples': 96, 'colsample_bytree': 0.
      7432121252752476, 'reg_alpha': 8.067697344191505,
      'reg_lambda': 2.875627854713326}. Best is trial 44
      with value: 0.22782840073859378.
261 C:\Users\Shyam Banerjee\AppData\Local\Programs\
      Python\Python312\Lib\site-packages\lightgbm\callback
      .py:333: UserWarning: Early stopping is not
      available in dart mode
262     _log_warning("Early stopping is not available in
      dart mode")
263 C:\Users\Shyam Banerjee\AppData\Local\Programs\
      Python\Python312\Lib\site-packages\sklearn\utils\
      validation.py:2739: UserWarning: X does not have
      valid feature names, but LGBMRegressor was fitted
      with feature names
264     warnings.warn(
265 Validation MAPE: 22.78284007385938 %
266 Best Hyperparameters: {'boosting_type': 'dart',
      'learning_rate': 0.012841684962676242, 'num_leaves':
      51, 'max_depth': 15, 'min_child_samples': 98,
      'colsample_bytree': 0.9619577500553605, 'reg_alpha':
      9.236642347413127, 'reg_lambda': 0.03725011165094383
      }
267 [I 2025-08-06 22:19:02,769] Trial 49 finished with
      value: 0.2445074749633418 and parameters: {
      'boosting_type': 'dart', 'learning_rate': 0.
      05237862371049805, 'num_leaves': 58, 'max_depth': 16
```

```
267 , 'min_child_samples': 87, 'colsample_bytree': 0.  
8572416284260961, 'reg_alpha': 9.974191789103594, '  
reg_lambda': 1.0563682578169442}. Best is trial 44  
with value: 0.22782840073859378.  
268 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
269     warnings.warn(  
270 Validation MAPE: 22.78284007385938 %  
271 C:\Users\Shyam Banerjee\AppData\Local\Programs\  
Python\Python312\Lib\site-packages\sklearn\utils\  
validation.py:2739: UserWarning: X does not have  
valid feature names, but LGBMRegressor was fitted  
with feature names  
272     warnings.warn(  
273 Predictions saved to 'Z fighter_predictions.csv'  
274  
275 Process finished with exit code 0  
276
```