

stl_MLP_final

October 31, 2022

```
[1]: #https://keras.io/api/layers/regularizers/  
#https://towardsdatascience.com/  
    ↳building-our-first-neural-network-in-keras-bdc8abbc17f5  
#https://www.activestate.com/resources/quick-reads/  
    ↳how-to-use-a-model-to-do-predictions-with-keras/  
#https://machinelearningmastery.com/  
    ↳how-to-make-classification-and-regression-predictions-for-deep-learning-models-in-keras/  
    ↳  
#https://machinelearningmastery.com/  
    ↳regression-tutorial-keras-deep-learning-library-python/  
#https://stackoverflow.com/questions/32635911/  
    ↳convert-elements-of-an-array-from-scientific-notation-to-decimal-notation-in-pyt  
#https://machinelearningmastery.com/  
    ↳how-to-reduce-overfitting-in-deep-learning-with-weight-regularization/  
#https://github.com/christianversloot/machine-learning-articles/blob/main/  
    ↳how-to-use-k-fold-cross-validation-with-keras.md  
#https://www.tutorialspoint.com/keras/keras_regression_prediction_using_mpl.htm  
#https://machinelearningmastery.com/  
    ↳display-deep-learning-model-training-history-in-keras/  
#https://machinelearningmastery.com/custom-metrics-deep-learning-keras-python/
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ActiveState, 2021. How To Use A Model To Do Predictions with Keras. [Online] Available at: <https://www.activestate.com/resources/quick-reads/how-to-use-a-model-to-do-predictions-with-keras/> [Accessed 24 June 2022]. Brownlee, J., 2019. Display Deep Learning Model Training History in Keras. [Online] Available at: <https://machinelearningmastery.com/display-deep-learning-model-training-history-in-keras/> [Accessed 24 June 2022]. Brownlee, J., 2020. How to Make Predictions with Keras. [Online] Available at: <https://machinelearningmastery.com/how-to-make-classification-and-regression-predictions-for-deep-learning-models-in-keras/> [Accessed 24 June 2022]. Brownlee, J., 2020. How to Use Metrics for Deep Learning with Keras in Python. [Online] Available at: <https://machinelearningmastery.com/custom-metrics-deep-learning-keras-python/> [Accessed 24 June 2022]. Brownlee, J., 2020. How to Use Weight Decay to Reduce Overfitting of Neural Networks in Keras. [Online] Available at: <https://machinelearningmastery.com/how-to-reduce-overfitting-in-deep-learning-with-weight-regularization/> [Accessed 24 June 2022]. Brownlee, J., 2020. Regression Tutorial with the Keras Deep Learning Library in Python. [Online] Available at: <https://machinelearningmastery.com/regression-tutorial-keras-deep-learning-library-python/> [Accessed 24 June 2022]. Keras API, n.d. Layer weight regularizers. [Online] Available at: <https://keras.io/api/layers/regularizers/> [Accessed 24 June 2022]. Kington, J., 2015. convert elements of an array from scientific notation to decimal nota-

tion in python. [Online] Available at: <https://stackoverflow.com/questions/32635911/convert-elements-of-an-array-from-scientific-notation-to-decimal-notation-in-pyt> [Accessed 24 June 2022]. Tanwar, S., 2019. Building our first neural network in keras. [Online] Available at: <https://towardsdatascience.com/building-our-first-neural-network-in-keras-bdc8abbc17f5> [Accessed 24 June 2022]. tutorialspoint, n.d. Keras - Regression Prediction using MPL. [Online] Available at: https://www.tutorialspoint.com/keras/keras_regression_prediction_using_mpl.htm [Accessed 24 June 2022]. Versloot, C., n.d. how-to-use-k-fold-cross-validation-with-keras.md. [Online] Available at: <https://github.com/christianversloot/machine-learning-articles/blob/main/how-to-use-k-fold-cross-validation-with-keras.md> [Accessed 24 June 2022].

1 Importing Packages

```
[2]: #Importing Libraries
      #Data manipulation
      import pandas as pd
      import numpy as np
      import statistics
      import matplotlib.pyplot as plt

      #Preprocessing
      from sklearn import datasets
      from sklearn.preprocessing import StandardScaler
      from sklearn.model_selection import train_test_split

      #Neural Network
      import keras
      from keras.models import Sequential
      from keras.layers import Dense
      import tensorflow as tf
      from sklearn.metrics import r2_score
      from keras.regularizers import L2, L1, L1L2
      from sklearn.model_selection import KFold
      from keras import backend

      # Ignore Warnings
      import warnings
      warnings.filterwarnings("ignore")
```

```
[3]: #Random Seed
      tf.random.set_seed(100)
```

2 Defining Functions

```
[4]: #Custom RMSE metric
def rmse(y_true, y_pred):
    return backend.sqrt(backend.mean(backend.square(y_pred - y_true)))
```

```
[5]: #Returning the Mean Absolute Weight and the Mean Squared Weight from Network
def give_maw_msw(keras_model):
    output_layer = keras_model.get_layer(index = 1)
    hidden_layer = keras_model.get_layer(index = 0)
    a1 = output_layer.weights[0].numpy()
    a2 = hidden_layer.weights[0].numpy()

    #For MAW:
    maw = statistics.mean(list(np.absolute(a1).ravel()) + list(np.absolute(a2).
→ravel()))

    #For MSW:
    msw = statistics.mean(list(np.square(a1).ravel()) + list(np.square(a2).
→ravel()))

    return maw, msw
```

```
[6]: #Creating the function for a Neural Network
def make_NN(X_tr, Y_tr, X_ts, Y_ts, neurons,
            regularizer, input_no, batch, epochs_no, fold_no):

    #To choose a regularization, do:
    #'L2' for Norm2
    #'L1' for Norm1
    #'Mixed' for ElasticNet-Like
    #Anything else for vanilla

    #Create the Model
    model_f = Sequential()
    if regularizer == 'L2':
        print("Regularizer chosen is L2")
        model_f.add(Dense(neurons, input_dim= input_no,
→kernel_initializer='normal',
                        activation='relu', kernel_regularizer = L2(0.001)))
    elif regularizer == 'L1':
        print("Regularizer chosen is L1")
        model_f.add(Dense(neurons, input_dim= input_no,
→kernel_initializer='normal',
                        activation='relu', kernel_regularizer = L1(0.001)))
    elif regularizer == 'Mixed':
```

```

        print("Regularizer chosen is L1L2")
        model_f.add(Dense(neurons, input_dim= input_no,
↪kernel_initializer='normal',
                                activation='relu', kernel_regularizer = L1L2(l1 = 0.
↪001, l2 = 0.001)))
    else:
        print("No Regularizer chosen")
        model_f.add(Dense(neurons, input_dim= input_no,
↪kernel_initializer='normal',
                                activation='relu'))
        model_f.add(Dense(1, kernel_initializer='normal'))
        model_f.compile(loss='mean_squared_error', optimizer='adam',
                        metrics = ['mean_absolute_error',
                                   'mean_squared_error', rmse,
                                   'mean_absolute_percentage_error'])

    # Generate a print
    ↵
↪print('-----')
    print('Training for fold {} ...'.format(fold_no))

# Fit data to model
history = model_f.fit(X_tr, Y_tr, batch_size= batch,
                      epochs= epochs_no)

#Evaluating the model
results = model_f.evaluate(X_ts, Y_ts, batch_size = batch)

#Predictions
prediction = model_f.predict(X_ts)
np.set_printoptions(formatter={'float_kind':'{:f}'.format})

#Give MAW and MSW
maw, msw = give_maw_msw(model_f)

#Returned Variables

fold_iter = fold_no
fold_loss = results[0]
fold_MSE = results[2]
fold_MAE = results[1]
fold_RMSE = results[3]
fold_pred = np.around(prediction,3)
fold_history = history
fold_model = model_f
fold_MAPE = results[4]
fold_R2 = r2_score(Y_ts, np.around(prediction,3))

```

```

fold_MAW = maw
fold_MSW = msw

dummy_dir = {'iter' : fold_iter, 'Loss' : fold_loss, 'MSE' : fold_MSE,
             'MAE' : fold_MAE, 'RMSE' : fold_RMSE, 'MAPE' : fold_MAPE, 'R2' :
↳fold_R2,
             'MAW' : fold_MAW, 'MSW' : fold_MSW, 'pred' : fold_pred,
             'hist' : fold_history, 'model' : fold_model}

return dummy_dir

```

[7]: *#Function for generating the folds and getting the statistics
#for a set neurons and regularization*

```

def folds_and_model(X_tr, Y_tr, X_ts, Y_ts, neurons,
                    regularizer, input_no, batch, epochs_no):

    fold_info = {}
    fold_no = 1
    kfold = KFold(n_splits= 10, shuffle=True)
    for train, test in kfold.split(X_tr, Y_tr):
        dummy_dir = make_NN(X_tr[train], Y_tr[train], X_ts, Y_ts, neurons,
                            regularizer, input_no, batch, epochs_no, fold_no)
        fold_info[fold_no] = dummy_dir
        fold_no += 1

    return fold_info

```

[8]: *#Function for creating a graph with the metrics by fold*

```

def graph_metric_by_fold(compendium):
    met_matrix = [['MSE', 'Loss'], ['RMSE', 'MAE'], ['MAPE', 'R2'], ['MAW', 'MSW']]
    fig1, axes1 = plt.subplots(4, 2, figsize = (20, 20))
    col_dict = {'MSE' : 'darkmagenta', 'RMSE' : 'darkturquoise',
                'Loss' : 'yellowgreen', 'MAE' : 'indianred',
                'MAPE' : 'peachpuff', 'R2' : 'cornflowerblue',
                'MAW' : 'hotpink', 'MSW' : 'orangered'}

    for row in [0,1,2,3]:

        for column in [0,1]:
            measure = []
            for i in range(10):
                measure.append(compendium[i+1][met_matrix[row][column]])
            axes1[row, column].bar(range(1,11), measure,
                                   color = col_dict[met_matrix[row][column]])
            axes1[row, column].axhline(statistics.mean(measure),
                                       color='black', linewidth=1, linestyle = 'dotted')

```

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        axes1[row, column].set_title(met_matrix[row][column])
        axes1[row, column].set_ylabel(met_matrix[row][column])
        axes1[row, column].set_xlabel('Fold')
        axes1[row, column].set_xticks(range(1,11))

    return fig1

```

```

[9]: #Function for graphing convergence
def graph_epoch_convergence(compendium):

    met_matrix = [['MSE', 'Loss'], ['RMSE', 'MAE']]
    fig1, axes1 = plt.subplots(2, 2, figsize = (10, 10))
    col_dict = {'MSE' : 'darkmagenta', 'RMSE' : 'darkturquoise',
                'Loss' : 'yellowgreen', 'MAE' : 'indianred'}
    hist_dict = {'MSE' : 'mean_squared_error', 'RMSE' : 'rmse',
                 'Loss' : 'loss', 'MAE' : 'mean_absolute_error'}

    for row in [0,1]:

        for column in [0,1]:

            history = []
            for i in range(10):
                history.append(compendium[i+1]['hist'].
↪history[hist_dict[met_matrix[row][column]]])

            np_hist = np.array(history)
            avg_per_epoch = np.average(np_hist, axis = 0)

            axes1[row, column].plot(avg_per_epoch, color = ↪
↪col_dict[met_matrix[row][column]])
            axes1[row, column].set_title('{} Convergence by Epoch - Avg. ↪
↪Across CV'.format(met_matrix[row][column]))
            axes1[row, column].set_ylabel(met_matrix[row][column])
            axes1[row, column].set_xlabel('Epoch')
            axes1[row, column].grid(True, alpha = 0.2, color = 'gray')
            axes1[row, column].legend([met_matrix[row][column]], loc='upper ↪
↪left')

    return fig1

```

```

[11]: #Function for creating all averages

def give_me_avg(compendium, measure):

```

```

    #possible values for metric = 'MSE', 'Loss', 'RMSE', 'MAE', 'R2', 'MAW',
    ↪ 'MSW'
    metric_list = []

    for i in range(len(compendium)):
        metric_list.append(compendium[i+1][measure])
    return statistics.mean(metric_list)

```

3 Data Processing

```

[12]: ## Load Boston dataset from datasets library
data = datasets.load_boston()

# Define the data/predictors as the pre-set feature names
df = pd.DataFrame(data.data, columns=data.feature_names)

# Put the target (Housing Price (MEDV)) in DataFrame
df_target = np.asarray(data.target)
df['House Price (MEDV)'] = pd.Series(df_target)

```

```

[13]: #Scaler
scaler = StandardScaler()

#Fitting scaler
scaler.fit(df)
sc_b = scaler.fit_transform(df)
sc_boston = pd.DataFrame(sc_b, columns=df.columns)
print(sc_boston)

```

	CRIM	ZN	INDUS	CHAS	NOX	RM	AGE \
0	-0.419782	0.284830	-1.287909	-0.272599	-0.144217	0.413672	-0.120013
1	-0.417339	-0.487722	-0.593381	-0.272599	-0.740262	0.194274	0.367166
2	-0.417342	-0.487722	-0.593381	-0.272599	-0.740262	1.282714	-0.265812
3	-0.416750	-0.487722	-1.306878	-0.272599	-0.835284	1.016303	-0.809889
4	-0.412482	-0.487722	-1.306878	-0.272599	-0.835284	1.228577	-0.511180
..
501	-0.413229	-0.487722	0.115738	-0.272599	0.158124	0.439316	0.018673
502	-0.415249	-0.487722	0.115738	-0.272599	0.158124	-0.234548	0.288933
503	-0.413447	-0.487722	0.115738	-0.272599	0.158124	0.984960	0.797449
504	-0.407764	-0.487722	0.115738	-0.272599	0.158124	0.725672	0.736996
505	-0.415000	-0.487722	0.115738	-0.272599	0.158124	-0.362767	0.434732

	DIS	RAD	TAX	PTRATIO	B	LSTAT \
0	0.140214	-0.982843	-0.666608	-1.459000	0.441052	-1.075562
1	0.557160	-0.867883	-0.987329	-0.303094	0.441052	-0.492439
2	0.557160	-0.867883	-0.987329	-0.303094	0.396427	-1.208727

```

3      1.077737 -0.752922 -1.106115  0.113032  0.416163 -1.361517
4      1.077737 -0.752922 -1.106115  0.113032  0.441052 -1.026501
..      ...      ...      ...      ...      ...      ...
501 -0.625796 -0.982843 -0.803212  1.176466  0.387217 -0.418147
502 -0.716639 -0.982843 -0.803212  1.176466  0.441052 -0.500850
503 -0.773684 -0.982843 -0.803212  1.176466  0.441052 -0.983048
504 -0.668437 -0.982843 -0.803212  1.176466  0.403225 -0.865302
505 -0.613246 -0.982843 -0.803212  1.176466  0.441052 -0.669058

```

```

      House Price (MEDV)
0          0.159686
1         -0.101524
2          1.324247
3          1.182758
4          1.487503
..          ...
501        -0.014454
502        -0.210362
503          0.148802
504        -0.057989
505        -1.157248

```

[506 rows x 14 columns]

```

[14]: #Creating X and Y
X = sc_boston[['ZN', 'INDUS', 'CHAS', 'NOX', 'RM', 'AGE', 'DIS', 'RAD', 'TAX',
               'PTRATIO', 'B', 'LSTAT', 'House Price (MEDV)']].values
Y = sc_boston['CRIM'].values

x_tr, x_ts, y_tr, y_ts = train_test_split(X, Y, test_size = 0.3, random_state = 1997)

```

4 Vanilla

```

[15]: #Creating the MLP
compendium_v = folds_and_model(x_tr, y_tr, x_ts, y_ts,
                               7, regularizer = 'Vanilla', input_no = 13,
                               batch = 32, epochs_no = 50)

```

No Regularizer chosen

Training for fold 1 ...

Epoch 1/50

10/10 [=====] - 1s 2ms/step - loss: 1.1669 -

mean_absolute_error: 0.5559 - mean_squared_error: 1.1669 - rmse: 0.9712 -

mean_absolute_percentage_error: 98.9286

Epoch 2/50

10/10 [=====] - 0s 2ms/step - loss: 1.1480 -

mean_absolute_error: 0.5468 - mean_squared_error: 1.1480 - rmse: 0.9286 -
mean_absolute_percentage_error: 99.6976

Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.1267 -
mean_absolute_error: 0.5369 - mean_squared_error: 1.1267 - rmse: 0.8923 -
mean_absolute_percentage_error: 103.6679

Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.1006 -
mean_absolute_error: 0.5247 - mean_squared_error: 1.1006 - rmse: 0.9241 -
mean_absolute_percentage_error: 108.1388

Epoch 5/50
10/10 [=====] - 0s 4ms/step - loss: 1.0683 -
mean_absolute_error: 0.5093 - mean_squared_error: 1.0683 - rmse: 0.8924 -
mean_absolute_percentage_error: 114.5141

Epoch 6/50
10/10 [=====] - 0s 2ms/step - loss: 1.0321 -
mean_absolute_error: 0.4914 - mean_squared_error: 1.0321 - rmse: 0.8995 -
mean_absolute_percentage_error: 122.6168

Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 0.9953 -
mean_absolute_error: 0.4709 - mean_squared_error: 0.9953 - rmse: 0.8255 -
mean_absolute_percentage_error: 137.2926

Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 0.9483 -
mean_absolute_error: 0.4445 - mean_squared_error: 0.9483 - rmse: 0.8366 -
mean_absolute_percentage_error: 142.9044

Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 0.9104 -
mean_absolute_error: 0.4163 - mean_squared_error: 0.9104 - rmse: 0.8411 -
mean_absolute_percentage_error: 148.5051

Epoch 10/50
10/10 [=====] - 0s 4ms/step - loss: 0.8792 -
mean_absolute_error: 0.3957 - mean_squared_error: 0.8792 - rmse: 0.7047 -
mean_absolute_percentage_error: 163.7707

Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.8466 -
mean_absolute_error: 0.3798 - mean_squared_error: 0.8466 - rmse: 0.7715 -
mean_absolute_percentage_error: 175.5712

Epoch 12/50
10/10 [=====] - 0s 4ms/step - loss: 0.8225 -
mean_absolute_error: 0.3677 - mean_squared_error: 0.8225 - rmse: 0.7356 -
mean_absolute_percentage_error: 186.6471

Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.8020 -
mean_absolute_error: 0.3573 - mean_squared_error: 0.8020 - rmse: 0.6992 -
mean_absolute_percentage_error: 197.4894

Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.7836 -

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mean_absolute_error: 0.3482 - mean_squared_error: 0.7836 - rmse: 0.7658 -
mean_absolute_percentage_error: 203.9747
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.7693 -
mean_absolute_error: 0.3390 - mean_squared_error: 0.7693 - rmse: 0.7214 -
mean_absolute_percentage_error: 210.2725
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.7596 -
mean_absolute_error: 0.3340 - mean_squared_error: 0.7596 - rmse: 0.6814 -
mean_absolute_percentage_error: 221.1155
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.7434 -
mean_absolute_error: 0.3245 - mean_squared_error: 0.7434 - rmse: 0.6700 -
mean_absolute_percentage_error: 221.2522
Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.7339 -
mean_absolute_error: 0.3156 - mean_squared_error: 0.7339 - rmse: 0.7072 -
mean_absolute_percentage_error: 219.5180
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.7254 -
mean_absolute_error: 0.3086 - mean_squared_error: 0.7254 - rmse: 0.7090 -
mean_absolute_percentage_error: 219.1338
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.7194 -
mean_absolute_error: 0.3056 - mean_squared_error: 0.7194 - rmse: 0.7187 -
mean_absolute_percentage_error: 220.4968
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.7124 -
mean_absolute_error: 0.3035 - mean_squared_error: 0.7124 - rmse: 0.6838 -
mean_absolute_percentage_error: 222.5497
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.7080 -
mean_absolute_error: 0.3016 - mean_squared_error: 0.7080 - rmse: 0.6609 -
mean_absolute_percentage_error: 222.6769
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7032 -
mean_absolute_error: 0.3004 - mean_squared_error: 0.7032 - rmse: 0.6228 -
mean_absolute_percentage_error: 222.2006
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.6992 -
mean_absolute_error: 0.2994 - mean_squared_error: 0.6992 - rmse: 0.6736 -
mean_absolute_percentage_error: 221.7368
Epoch 25/50
10/10 [=====] - 0s 4ms/step - loss: 0.6968 -
mean_absolute_error: 0.3013 - mean_squared_error: 0.6968 - rmse: 0.7047 -
mean_absolute_percentage_error: 225.5913
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.6935 -

```

```

mean_absolute_error: 0.3017 - mean_squared_error: 0.6935 - rmse: 0.5966 -
mean_absolute_percentage_error: 226.5056
Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.6912 -
mean_absolute_error: 0.3026 - mean_squared_error: 0.6912 - rmse: 0.6855 -
mean_absolute_percentage_error: 228.4273
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.6874 -
mean_absolute_error: 0.3026 - mean_squared_error: 0.6874 - rmse: 0.6952 -
mean_absolute_percentage_error: 229.2924
Epoch 29/50
10/10 [=====] - 0s 4ms/step - loss: 0.6853 -
mean_absolute_error: 0.3011 - mean_squared_error: 0.6853 - rmse: 0.6876 -
mean_absolute_percentage_error: 226.4313
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.6828 -
mean_absolute_error: 0.3006 - mean_squared_error: 0.6828 - rmse: 0.6997 -
mean_absolute_percentage_error: 225.2408
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.6814 -
mean_absolute_error: 0.2980 - mean_squared_error: 0.6814 - rmse: 0.6304 -
mean_absolute_percentage_error: 221.1109
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.6794 -
mean_absolute_error: 0.2959 - mean_squared_error: 0.6794 - rmse: 0.6738 -
mean_absolute_percentage_error: 217.5901
Epoch 33/50
10/10 [=====] - 0s 4ms/step - loss: 0.6769 -
mean_absolute_error: 0.2976 - mean_squared_error: 0.6769 - rmse: 0.6652 -
mean_absolute_percentage_error: 220.0505
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.6755 -
mean_absolute_error: 0.2983 - mean_squared_error: 0.6755 - rmse: 0.6941 -
mean_absolute_percentage_error: 221.5105
Epoch 35/50
10/10 [=====] - 0s 4ms/step - loss: 0.6734 -
mean_absolute_error: 0.2982 - mean_squared_error: 0.6734 - rmse: 0.6621 -
mean_absolute_percentage_error: 220.8094
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.6717 -
mean_absolute_error: 0.2981 - mean_squared_error: 0.6717 - rmse: 0.6871 -
mean_absolute_percentage_error: 219.8697
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.6700 -
mean_absolute_error: 0.2963 - mean_squared_error: 0.6700 - rmse: 0.6521 -
mean_absolute_percentage_error: 216.2807
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.6690 -

```

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mean_absolute_error: 0.2944 - mean_squared_error: 0.6690 - rmse: 0.6590 -
mean_absolute_percentage_error: 212.7658
Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.6676 -
mean_absolute_error: 0.2936 - mean_squared_error: 0.6676 - rmse: 0.7019 -
mean_absolute_percentage_error: 211.0864
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.6675 -
mean_absolute_error: 0.2957 - mean_squared_error: 0.6675 - rmse: 0.6024 -
mean_absolute_percentage_error: 212.8430
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.6649 -
mean_absolute_error: 0.2963 - mean_squared_error: 0.6649 - rmse: 0.6515 -
mean_absolute_percentage_error: 214.4035
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.6636 -
mean_absolute_error: 0.2954 - mean_squared_error: 0.6636 - rmse: 0.6930 -
mean_absolute_percentage_error: 212.7902
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.6621 -
mean_absolute_error: 0.2939 - mean_squared_error: 0.6621 - rmse: 0.6418 -
mean_absolute_percentage_error: 210.2411
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.6612 -
mean_absolute_error: 0.2925 - mean_squared_error: 0.6612 - rmse: 0.6708 -
mean_absolute_percentage_error: 206.8701
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.6609 -
mean_absolute_error: 0.2942 - mean_squared_error: 0.6609 - rmse: 0.6734 -
mean_absolute_percentage_error: 208.0378
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.6602 -
mean_absolute_error: 0.2958 - mean_squared_error: 0.6602 - rmse: 0.5849 -
mean_absolute_percentage_error: 209.4069
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.6578 -
mean_absolute_error: 0.2948 - mean_squared_error: 0.6578 - rmse: 0.6718 -
mean_absolute_percentage_error: 207.8592
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.6574 -
mean_absolute_error: 0.2906 - mean_squared_error: 0.6574 - rmse: 0.6272 -
mean_absolute_percentage_error: 202.5479
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.6566 -
mean_absolute_error: 0.2915 - mean_squared_error: 0.6566 - rmse: 0.6752 -
mean_absolute_percentage_error: 202.9251
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.6548 -

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mean_absolute_error: 0.2933 - mean_squared_error: 0.6548 - rmse: 0.6341 -
mean_absolute_percentage_error: 204.8096
5/5 [=====] - 0s 2ms/step - loss: 0.2285 -
mean_absolute_error: 0.2832 - mean_squared_error: 0.2285 - rmse: 0.4628 -
mean_absolute_percentage_error: 199.7990
5/5 [=====] - 0s 2ms/step
No Regularizer chosen
-----
Training for fold 2 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2544 -
mean_absolute_error: 0.5629 - mean_squared_error: 1.2544 - rmse: 0.9858 -
mean_absolute_percentage_error: 93.0869
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2301 -
mean_absolute_error: 0.5501 - mean_squared_error: 1.2301 - rmse: 1.0028 -
mean_absolute_percentage_error: 93.6144
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.2049 -
mean_absolute_error: 0.5354 - mean_squared_error: 1.2049 - rmse: 0.9912 -
mean_absolute_percentage_error: 92.6011
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.1775 -
mean_absolute_error: 0.5167 - mean_squared_error: 1.1775 - rmse: 0.9627 -
mean_absolute_percentage_error: 92.6720
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.1490 -
mean_absolute_error: 0.4952 - mean_squared_error: 1.1490 - rmse: 0.9708 -
mean_absolute_percentage_error: 92.7909
Epoch 6/50
10/10 [=====] - 0s 2ms/step - loss: 1.1196 -
mean_absolute_error: 0.4720 - mean_squared_error: 1.1196 - rmse: 0.9033 -
mean_absolute_percentage_error: 93.0279
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.0863 -
mean_absolute_error: 0.4463 - mean_squared_error: 1.0863 - rmse: 0.9174 -
mean_absolute_percentage_error: 94.4948
Epoch 8/50
10/10 [=====] - 0s 4ms/step - loss: 1.0503 -
mean_absolute_error: 0.4253 - mean_squared_error: 1.0503 - rmse: 0.9115 -
mean_absolute_percentage_error: 97.0568
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0167 -
mean_absolute_error: 0.4090 - mean_squared_error: 1.0167 - rmse: 0.8827 -
mean_absolute_percentage_error: 100.8008
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.9869 -
mean_absolute_error: 0.3986 - mean_squared_error: 0.9869 - rmse: 0.8212 -

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mean_absolute_percentage_error: 110.5754
Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.9516 -
mean_absolute_error: 0.3873 - mean_squared_error: 0.9516 - rmse: 0.7767 -
mean_absolute_percentage_error: 117.5011
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.9215 -
mean_absolute_error: 0.3776 - mean_squared_error: 0.9215 - rmse: 0.7702 -
mean_absolute_percentage_error: 124.0234
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.9003 -
mean_absolute_error: 0.3703 - mean_squared_error: 0.9003 - rmse: 0.7755 -
mean_absolute_percentage_error: 129.7255
Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.8782 -
mean_absolute_error: 0.3620 - mean_squared_error: 0.8782 - rmse: 0.7927 -
mean_absolute_percentage_error: 137.4674
Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8585 -
mean_absolute_error: 0.3558 - mean_squared_error: 0.8585 - rmse: 0.7546 -
mean_absolute_percentage_error: 141.3789
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8430 -
mean_absolute_error: 0.3495 - mean_squared_error: 0.8430 - rmse: 0.7928 -
mean_absolute_percentage_error: 145.7141
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8280 -
mean_absolute_error: 0.3436 - mean_squared_error: 0.8280 - rmse: 0.7149 -
mean_absolute_percentage_error: 147.8168
Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.8173 -
mean_absolute_error: 0.3400 - mean_squared_error: 0.8173 - rmse: 0.7522 -
mean_absolute_percentage_error: 150.0938
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8047 -
mean_absolute_error: 0.3355 - mean_squared_error: 0.8047 - rmse: 0.7102 -
mean_absolute_percentage_error: 152.1400
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.7944 -
mean_absolute_error: 0.3327 - mean_squared_error: 0.7944 - rmse: 0.7660 -
mean_absolute_percentage_error: 153.2472
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.7835 -
mean_absolute_error: 0.3294 - mean_squared_error: 0.7835 - rmse: 0.6948 -
mean_absolute_percentage_error: 152.1210
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7755 -
mean_absolute_error: 0.3269 - mean_squared_error: 0.7755 - rmse: 0.7437 -

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mean_absolute_percentage_error: 152.2091
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7688 -
mean_absolute_error: 0.3232 - mean_squared_error: 0.7688 - rmse: 0.7603 -
mean_absolute_percentage_error: 147.1084
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.7617 -
mean_absolute_error: 0.3197 - mean_squared_error: 0.7617 - rmse: 0.7311 -
mean_absolute_percentage_error: 146.1743
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7565 -
mean_absolute_error: 0.3210 - mean_squared_error: 0.7565 - rmse: 0.7307 -
mean_absolute_percentage_error: 148.2538
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7524 -
mean_absolute_error: 0.3220 - mean_squared_error: 0.7524 - rmse: 0.7245 -
mean_absolute_percentage_error: 150.2695
Epoch 27/50
10/10 [=====] - 0s 4ms/step - loss: 0.7497 -
mean_absolute_error: 0.3232 - mean_squared_error: 0.7497 - rmse: 0.7258 -
mean_absolute_percentage_error: 151.8680
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7465 -
mean_absolute_error: 0.3231 - mean_squared_error: 0.7465 - rmse: 0.6646 -
mean_absolute_percentage_error: 151.4243
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7430 -
mean_absolute_error: 0.3226 - mean_squared_error: 0.7430 - rmse: 0.7474 -
mean_absolute_percentage_error: 151.6834
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7407 -
mean_absolute_error: 0.3223 - mean_squared_error: 0.7407 - rmse: 0.7425 -
mean_absolute_percentage_error: 151.2075
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7387 -
mean_absolute_error: 0.3196 - mean_squared_error: 0.7387 - rmse: 0.7644 -
mean_absolute_percentage_error: 148.0707
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7368 -
mean_absolute_error: 0.3192 - mean_squared_error: 0.7368 - rmse: 0.7357 -
mean_absolute_percentage_error: 147.8974
Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.7343 -
mean_absolute_error: 0.3196 - mean_squared_error: 0.7343 - rmse: 0.6986 -
mean_absolute_percentage_error: 148.9533
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.7352 -
mean_absolute_error: 0.3215 - mean_squared_error: 0.7352 - rmse: 0.7100 -

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mean_absolute_percentage_error: 151.2787
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7314 -
mean_absolute_error: 0.3210 - mean_squared_error: 0.7314 - rmse: 0.6834 -
mean_absolute_percentage_error: 150.4415
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.7308 -
mean_absolute_error: 0.3203 - mean_squared_error: 0.7308 - rmse: 0.6147 -
mean_absolute_percentage_error: 149.8045
Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.7319 -
mean_absolute_error: 0.3165 - mean_squared_error: 0.7319 - rmse: 0.6969 -
mean_absolute_percentage_error: 144.9462
Epoch 38/50
10/10 [=====] - 0s 4ms/step - loss: 0.7292 -
mean_absolute_error: 0.3164 - mean_squared_error: 0.7292 - rmse: 0.7239 -
mean_absolute_percentage_error: 145.9993
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7273 -
mean_absolute_error: 0.3204 - mean_squared_error: 0.7273 - rmse: 0.7194 -
mean_absolute_percentage_error: 149.0776
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7255 -
mean_absolute_error: 0.3173 - mean_squared_error: 0.7255 - rmse: 0.7102 -
mean_absolute_percentage_error: 145.9599
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7250 -
mean_absolute_error: 0.3156 - mean_squared_error: 0.7250 - rmse: 0.7583 -
mean_absolute_percentage_error: 144.6201
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7226 -
mean_absolute_error: 0.3149 - mean_squared_error: 0.7226 - rmse: 0.7439 -
mean_absolute_percentage_error: 143.9320
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7236 -
mean_absolute_error: 0.3186 - mean_squared_error: 0.7236 - rmse: 0.7209 -
mean_absolute_percentage_error: 146.4650
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.7223 -
mean_absolute_error: 0.3183 - mean_squared_error: 0.7223 - rmse: 0.6808 -
mean_absolute_percentage_error: 146.1802
Epoch 45/50
10/10 [=====] - 0s 3ms/step - loss: 0.7206 -
mean_absolute_error: 0.3165 - mean_squared_error: 0.7206 - rmse: 0.7041 -
mean_absolute_percentage_error: 144.4870
Epoch 46/50
10/10 [=====] - 0s 4ms/step - loss: 0.7203 -
mean_absolute_error: 0.3171 - mean_squared_error: 0.7203 - rmse: 0.7221 -

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mean_absolute_percentage_error: 144.9778
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7190 -
mean_absolute_error: 0.3183 - mean_squared_error: 0.7190 - rmse: 0.7273 -
mean_absolute_percentage_error: 145.7406
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7184 -
mean_absolute_error: 0.3156 - mean_squared_error: 0.7184 - rmse: 0.7382 -
mean_absolute_percentage_error: 142.5273
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7170 -
mean_absolute_error: 0.3151 - mean_squared_error: 0.7170 - rmse: 0.7286 -
mean_absolute_percentage_error: 141.9586
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.7166 -
mean_absolute_error: 0.3175 - mean_squared_error: 0.7166 - rmse: 0.7112 -
mean_absolute_percentage_error: 144.4604
5/5 [=====] - 0s 2ms/step - loss: 0.2514 -
mean_absolute_error: 0.3008 - mean_squared_error: 0.2514 - rmse: 0.4869 -
mean_absolute_percentage_error: 225.6097
5/5 [=====] - 0s 2ms/step
No Regularizer chosen
-----
Training for fold 3 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.1431 -
mean_absolute_error: 0.5560 - mean_squared_error: 1.1431 - rmse: 0.8776 -
mean_absolute_percentage_error: 99.1918
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.1315 -
mean_absolute_error: 0.5469 - mean_squared_error: 1.1315 - rmse: 0.9077 -
mean_absolute_percentage_error: 97.0841
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.1196 -
mean_absolute_error: 0.5359 - mean_squared_error: 1.1196 - rmse: 0.8817 -
mean_absolute_percentage_error: 95.6722
Epoch 4/50
10/10 [=====] - 0s 4ms/step - loss: 1.1052 -
mean_absolute_error: 0.5216 - mean_squared_error: 1.1052 - rmse: 0.8895 -
mean_absolute_percentage_error: 94.0350
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.0878 -
mean_absolute_error: 0.5037 - mean_squared_error: 1.0878 - rmse: 0.8634 -
mean_absolute_percentage_error: 91.5474
Epoch 6/50
10/10 [=====] - 0s 4ms/step - loss: 1.0695 -
mean_absolute_error: 0.4826 - mean_squared_error: 1.0695 - rmse: 0.8733 -
mean_absolute_percentage_error: 90.4344

```

Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.0487 -
mean_absolute_error: 0.4552 - mean_squared_error: 1.0487 - rmse: 0.8928 -
mean_absolute_percentage_error: 88.3852

Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0291 -
mean_absolute_error: 0.4336 - mean_squared_error: 1.0291 - rmse: 0.8779 -
mean_absolute_percentage_error: 87.3322

Epoch 9/50
10/10 [=====] - 0s 4ms/step - loss: 1.0076 -
mean_absolute_error: 0.4163 - mean_squared_error: 1.0076 - rmse: 0.8215 -
mean_absolute_percentage_error: 88.9082

Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.9879 -
mean_absolute_error: 0.4010 - mean_squared_error: 0.9879 - rmse: 0.8200 -
mean_absolute_percentage_error: 90.9367

Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9679 -
mean_absolute_error: 0.3866 - mean_squared_error: 0.9679 - rmse: 0.8106 -
mean_absolute_percentage_error: 95.9918

Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.9454 -
mean_absolute_error: 0.3715 - mean_squared_error: 0.9454 - rmse: 0.8099 -
mean_absolute_percentage_error: 100.4367

Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.9234 -
mean_absolute_error: 0.3548 - mean_squared_error: 0.9234 - rmse: 0.7977 -
mean_absolute_percentage_error: 104.3807

Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.9015 -
mean_absolute_error: 0.3375 - mean_squared_error: 0.9015 - rmse: 0.7679 -
mean_absolute_percentage_error: 110.6194

Epoch 15/50
10/10 [=====] - 0s 4ms/step - loss: 0.8772 -
mean_absolute_error: 0.3202 - mean_squared_error: 0.8772 - rmse: 0.6926 -
mean_absolute_percentage_error: 113.7162

Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8556 -
mean_absolute_error: 0.3035 - mean_squared_error: 0.8556 - rmse: 0.7365 -
mean_absolute_percentage_error: 116.6225

Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8367 -
mean_absolute_error: 0.2914 - mean_squared_error: 0.8367 - rmse: 0.7373 -
mean_absolute_percentage_error: 121.1872

Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.8175 -
mean_absolute_error: 0.2827 - mean_squared_error: 0.8175 - rmse: 0.7205 -
mean_absolute_percentage_error: 125.4377

Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.8009 -
mean_absolute_error: 0.2786 - mean_squared_error: 0.8009 - rmse: 0.6134 -
mean_absolute_percentage_error: 135.2758
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.7861 -
mean_absolute_error: 0.2756 - mean_squared_error: 0.7861 - rmse: 0.7249 -
mean_absolute_percentage_error: 141.3898
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.7720 -
mean_absolute_error: 0.2729 - mean_squared_error: 0.7720 - rmse: 0.6573 -
mean_absolute_percentage_error: 149.2350
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.7600 -
mean_absolute_error: 0.2726 - mean_squared_error: 0.7600 - rmse: 0.7057 -
mean_absolute_percentage_error: 155.4805
Epoch 23/50
10/10 [=====] - 0s 4ms/step - loss: 0.7486 -
mean_absolute_error: 0.2737 - mean_squared_error: 0.7486 - rmse: 0.6189 -
mean_absolute_percentage_error: 163.1499
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7389 -
mean_absolute_error: 0.2733 - mean_squared_error: 0.7389 - rmse: 0.6898 -
mean_absolute_percentage_error: 168.1354
Epoch 25/50
10/10 [=====] - 0s 4ms/step - loss: 0.7319 -
mean_absolute_error: 0.2743 - mean_squared_error: 0.7319 - rmse: 0.6495 -
mean_absolute_percentage_error: 174.5905
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7238 -
mean_absolute_error: 0.2761 - mean_squared_error: 0.7238 - rmse: 0.6653 -
mean_absolute_percentage_error: 183.5638
Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.7178 -
mean_absolute_error: 0.2769 - mean_squared_error: 0.7178 - rmse: 0.6691 -
mean_absolute_percentage_error: 190.4764
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7109 -
mean_absolute_error: 0.2773 - mean_squared_error: 0.7109 - rmse: 0.6669 -
mean_absolute_percentage_error: 193.1791
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7068 -
mean_absolute_error: 0.2773 - mean_squared_error: 0.7068 - rmse: 0.6127 -
mean_absolute_percentage_error: 196.2757
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7024 -
mean_absolute_error: 0.2778 - mean_squared_error: 0.7024 - rmse: 0.6518 -
mean_absolute_percentage_error: 201.1070

Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.6985 -
mean_absolute_error: 0.2784 - mean_squared_error: 0.6985 - rmse: 0.6436 -
mean_absolute_percentage_error: 205.0227
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.6963 -
mean_absolute_error: 0.2795 - mean_squared_error: 0.6963 - rmse: 0.6598 -
mean_absolute_percentage_error: 206.9984
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.6925 -
mean_absolute_error: 0.2809 - mean_squared_error: 0.6925 - rmse: 0.6900 -
mean_absolute_percentage_error: 212.8131
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.6909 -
mean_absolute_error: 0.2826 - mean_squared_error: 0.6909 - rmse: 0.6609 -
mean_absolute_percentage_error: 217.0876
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.6881 -
mean_absolute_error: 0.2828 - mean_squared_error: 0.6881 - rmse: 0.6402 -
mean_absolute_percentage_error: 219.4382
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.6859 -
mean_absolute_error: 0.2836 - mean_squared_error: 0.6859 - rmse: 0.6552 -
mean_absolute_percentage_error: 220.7692
Epoch 37/50
10/10 [=====] - 0s 4ms/step - loss: 0.6831 -
mean_absolute_error: 0.2826 - mean_squared_error: 0.6831 - rmse: 0.6956 -
mean_absolute_percentage_error: 220.3654
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.6817 -
mean_absolute_error: 0.2817 - mean_squared_error: 0.6817 - rmse: 0.6621 -
mean_absolute_percentage_error: 218.8790
Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.6809 -
mean_absolute_error: 0.2833 - mean_squared_error: 0.6809 - rmse: 0.6264 -
mean_absolute_percentage_error: 220.6695
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.6787 -
mean_absolute_error: 0.2824 - mean_squared_error: 0.6787 - rmse: 0.6823 -
mean_absolute_percentage_error: 220.7194
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.6781 -
mean_absolute_error: 0.2834 - mean_squared_error: 0.6781 - rmse: 0.6243 -
mean_absolute_percentage_error: 222.5019
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.6767 -
mean_absolute_error: 0.2836 - mean_squared_error: 0.6767 - rmse: 0.6376 -
mean_absolute_percentage_error: 222.2488

```

Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.6759 -
mean_absolute_error: 0.2845 - mean_squared_error: 0.6759 - rmse: 0.6807 -
mean_absolute_percentage_error: 223.5679
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.6744 -
mean_absolute_error: 0.2848 - mean_squared_error: 0.6744 - rmse: 0.6652 -
mean_absolute_percentage_error: 224.2249
Epoch 45/50
10/10 [=====] - 0s 4ms/step - loss: 0.6738 -
mean_absolute_error: 0.2832 - mean_squared_error: 0.6738 - rmse: 0.6655 -
mean_absolute_percentage_error: 222.2289
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.6728 -
mean_absolute_error: 0.2833 - mean_squared_error: 0.6728 - rmse: 0.6926 -
mean_absolute_percentage_error: 223.7559
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.6724 -
mean_absolute_error: 0.2837 - mean_squared_error: 0.6724 - rmse: 0.6517 -
mean_absolute_percentage_error: 224.5417
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.6718 -
mean_absolute_error: 0.2823 - mean_squared_error: 0.6718 - rmse: 0.6621 -
mean_absolute_percentage_error: 221.8505
Epoch 49/50
10/10 [=====] - 0s 4ms/step - loss: 0.6708 -
mean_absolute_error: 0.2834 - mean_squared_error: 0.6708 - rmse: 0.6445 -
mean_absolute_percentage_error: 222.1861
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.6701 -
mean_absolute_error: 0.2833 - mean_squared_error: 0.6701 - rmse: 0.6721 -
mean_absolute_percentage_error: 223.4601
5/5 [=====] - 0s 4ms/step - loss: 0.2328 -
mean_absolute_error: 0.2903 - mean_squared_error: 0.2328 - rmse: 0.4652 -
mean_absolute_percentage_error: 214.2237
5/5 [=====] - 0s 2ms/step
No Regularizer chosen
-----
Training for fold 4 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2558 -
mean_absolute_error: 0.5685 - mean_squared_error: 1.2558 - rmse: 1.0210 -
mean_absolute_percentage_error: 96.7848
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2374 -
mean_absolute_error: 0.5603 - mean_squared_error: 1.2374 - rmse: 0.9685 -
mean_absolute_percentage_error: 96.5394
Epoch 3/50

```

10/10 [=====] - 0s 3ms/step - loss: 1.2213 -
mean_absolute_error: 0.5511 - mean_squared_error: 1.2213 - rmse: 0.9673 -
mean_absolute_percentage_error: 97.3355
Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.2007 -
mean_absolute_error: 0.5379 - mean_squared_error: 1.2007 - rmse: 0.8991 -
mean_absolute_percentage_error: 98.7016
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1793 -
mean_absolute_error: 0.5228 - mean_squared_error: 1.1793 - rmse: 0.9981 -
mean_absolute_percentage_error: 101.0044
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1523 -
mean_absolute_error: 0.5045 - mean_squared_error: 1.1523 - rmse: 0.9248 -
mean_absolute_percentage_error: 102.8644
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.1195 -
mean_absolute_error: 0.4817 - mean_squared_error: 1.1195 - rmse: 0.8863 -
mean_absolute_percentage_error: 107.8919
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0848 -
mean_absolute_error: 0.4565 - mean_squared_error: 1.0848 - rmse: 0.9000 -
mean_absolute_percentage_error: 110.2989
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 1.0469 -
mean_absolute_error: 0.4328 - mean_squared_error: 1.0469 - rmse: 0.8838 -
mean_absolute_percentage_error: 121.7881
Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 1.0160 -
mean_absolute_error: 0.4120 - mean_squared_error: 1.0160 - rmse: 0.7891 -
mean_absolute_percentage_error: 132.9897
Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.9784 -
mean_absolute_error: 0.3929 - mean_squared_error: 0.9784 - rmse: 0.8259 -
mean_absolute_percentage_error: 146.6693
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.9413 -
mean_absolute_error: 0.3780 - mean_squared_error: 0.9413 - rmse: 0.8611 -
mean_absolute_percentage_error: 158.0250
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.9077 -
mean_absolute_error: 0.3642 - mean_squared_error: 0.9077 - rmse: 0.8216 -
mean_absolute_percentage_error: 167.3306
Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.8822 -
mean_absolute_error: 0.3527 - mean_squared_error: 0.8822 - rmse: 0.8263 -
mean_absolute_percentage_error: 184.4389
Epoch 15/50

10/10 [=====] - 0s 3ms/step - loss: 0.8579 -
mean_absolute_error: 0.3446 - mean_squared_error: 0.8579 - rmse: 0.7623 -
mean_absolute_percentage_error: 194.8356
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8365 -
mean_absolute_error: 0.3378 - mean_squared_error: 0.8365 - rmse: 0.7826 -
mean_absolute_percentage_error: 210.2757
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8181 -
mean_absolute_error: 0.3321 - mean_squared_error: 0.8181 - rmse: 0.7783 -
mean_absolute_percentage_error: 216.8022
Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.8037 -
mean_absolute_error: 0.3233 - mean_squared_error: 0.8037 - rmse: 0.7012 -
mean_absolute_percentage_error: 219.8442
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.7934 -
mean_absolute_error: 0.3203 - mean_squared_error: 0.7934 - rmse: 0.7621 -
mean_absolute_percentage_error: 224.5884
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.7864 -
mean_absolute_error: 0.3218 - mean_squared_error: 0.7864 - rmse: 0.7365 -
mean_absolute_percentage_error: 232.4620
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.7761 -
mean_absolute_error: 0.3217 - mean_squared_error: 0.7761 - rmse: 0.7477 -
mean_absolute_percentage_error: 235.3448
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7733 -
mean_absolute_error: 0.3194 - mean_squared_error: 0.7733 - rmse: 0.7112 -
mean_absolute_percentage_error: 233.2694
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7668 -
mean_absolute_error: 0.3205 - mean_squared_error: 0.7668 - rmse: 0.6860 -
mean_absolute_percentage_error: 236.5868
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7620 -
mean_absolute_error: 0.3229 - mean_squared_error: 0.7620 - rmse: 0.7693 -
mean_absolute_percentage_error: 240.6046
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7589 -
mean_absolute_error: 0.3256 - mean_squared_error: 0.7589 - rmse: 0.7314 -
mean_absolute_percentage_error: 245.2132
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7550 -
mean_absolute_error: 0.3279 - mean_squared_error: 0.7550 - rmse: 0.7145 -
mean_absolute_percentage_error: 247.7018
Epoch 27/50

10/10 [=====] - 0s 2ms/step - loss: 0.7530 -
mean_absolute_error: 0.3268 - mean_squared_error: 0.7530 - rmse: 0.7403 -
mean_absolute_percentage_error: 245.6164
Epoch 28/50

10/10 [=====] - 0s 3ms/step - loss: 0.7510 -
mean_absolute_error: 0.3281 - mean_squared_error: 0.7510 - rmse: 0.7381 -
mean_absolute_percentage_error: 248.9441
Epoch 29/50

10/10 [=====] - 0s 3ms/step - loss: 0.7466 -
mean_absolute_error: 0.3283 - mean_squared_error: 0.7466 - rmse: 0.7605 -
mean_absolute_percentage_error: 248.7711
Epoch 30/50

10/10 [=====] - 0s 2ms/step - loss: 0.7451 -
mean_absolute_error: 0.3280 - mean_squared_error: 0.7451 - rmse: 0.7506 -
mean_absolute_percentage_error: 248.3081
Epoch 31/50

10/10 [=====] - 0s 2ms/step - loss: 0.7438 -
mean_absolute_error: 0.3285 - mean_squared_error: 0.7438 - rmse: 0.7230 -
mean_absolute_percentage_error: 248.3009
Epoch 32/50

10/10 [=====] - 0s 2ms/step - loss: 0.7423 -
mean_absolute_error: 0.3293 - mean_squared_error: 0.7423 - rmse: 0.7115 -
mean_absolute_percentage_error: 250.2773
Epoch 33/50

10/10 [=====] - 0s 2ms/step - loss: 0.7395 -
mean_absolute_error: 0.3293 - mean_squared_error: 0.7395 - rmse: 0.7387 -
mean_absolute_percentage_error: 250.4587
Epoch 34/50

10/10 [=====] - 0s 2ms/step - loss: 0.7378 -
mean_absolute_error: 0.3284 - mean_squared_error: 0.7378 - rmse: 0.7398 -
mean_absolute_percentage_error: 249.1316
Epoch 35/50

10/10 [=====] - 0s 2ms/step - loss: 0.7363 -
mean_absolute_error: 0.3255 - mean_squared_error: 0.7363 - rmse: 0.7346 -
mean_absolute_percentage_error: 244.7180
Epoch 36/50

10/10 [=====] - 0s 3ms/step - loss: 0.7351 -
mean_absolute_error: 0.3253 - mean_squared_error: 0.7351 - rmse: 0.7532 -
mean_absolute_percentage_error: 244.1284
Epoch 37/50

10/10 [=====] - 0s 2ms/step - loss: 0.7335 -
mean_absolute_error: 0.3248 - mean_squared_error: 0.7335 - rmse: 0.7216 -
mean_absolute_percentage_error: 243.2292
Epoch 38/50

10/10 [=====] - 0s 2ms/step - loss: 0.7326 -
mean_absolute_error: 0.3261 - mean_squared_error: 0.7326 - rmse: 0.7367 -
mean_absolute_percentage_error: 243.6265
Epoch 39/50

10/10 [=====] - 0s 2ms/step - loss: 0.7314 -
mean_absolute_error: 0.3268 - mean_squared_error: 0.7314 - rmse: 0.7184 -
mean_absolute_percentage_error: 245.5671
Epoch 40/50
10/10 [=====] - 0s 4ms/step - loss: 0.7308 -
mean_absolute_error: 0.3266 - mean_squared_error: 0.7308 - rmse: 0.7151 -
mean_absolute_percentage_error: 244.5405
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.7301 -
mean_absolute_error: 0.3252 - mean_squared_error: 0.7301 - rmse: 0.6908 -
mean_absolute_percentage_error: 242.8736
Epoch 42/50
10/10 [=====] - 0s 4ms/step - loss: 0.7280 -
mean_absolute_error: 0.3237 - mean_squared_error: 0.7280 - rmse: 0.7278 -
mean_absolute_percentage_error: 240.3306
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7282 -
mean_absolute_error: 0.3266 - mean_squared_error: 0.7282 - rmse: 0.7177 -
mean_absolute_percentage_error: 243.0980
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7271 -
mean_absolute_error: 0.3251 - mean_squared_error: 0.7271 - rmse: 0.7465 -
mean_absolute_percentage_error: 241.8777
Epoch 45/50
10/10 [=====] - 0s 4ms/step - loss: 0.7272 -
mean_absolute_error: 0.3267 - mean_squared_error: 0.7272 - rmse: 0.6871 -
mean_absolute_percentage_error: 242.6639
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.7255 -
mean_absolute_error: 0.3247 - mean_squared_error: 0.7255 - rmse: 0.6949 -
mean_absolute_percentage_error: 241.4131
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7235 -
mean_absolute_error: 0.3238 - mean_squared_error: 0.7235 - rmse: 0.7324 -
mean_absolute_percentage_error: 238.7466
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7239 -
mean_absolute_error: 0.3226 - mean_squared_error: 0.7239 - rmse: 0.7328 -
mean_absolute_percentage_error: 237.1112
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7243 -
mean_absolute_error: 0.3248 - mean_squared_error: 0.7243 - rmse: 0.7181 -
mean_absolute_percentage_error: 240.9319
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7224 -
mean_absolute_error: 0.3252 - mean_squared_error: 0.7224 - rmse: 0.6597 -
mean_absolute_percentage_error: 239.9761
5/5 [=====] - 0s 2ms/step - loss: 0.2447 -

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mean_absolute_error: 0.3008 - mean_squared_error: 0.2447 - rmse: 0.4788 -
mean_absolute_percentage_error: 220.7211
5/5 [=====] - 0s 2ms/step
No Regularizer chosen
-----
Training for fold 5 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2791 -
mean_absolute_error: 0.5775 - mean_squared_error: 1.2791 - rmse: 1.0353 -
mean_absolute_percentage_error: 98.0934
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2638 -
mean_absolute_error: 0.5665 - mean_squared_error: 1.2638 - rmse: 0.9898 -
mean_absolute_percentage_error: 97.8253
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.2418 -
mean_absolute_error: 0.5527 - mean_squared_error: 1.2418 - rmse: 1.0228 -
mean_absolute_percentage_error: 98.7257
Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.2106 -
mean_absolute_error: 0.5334 - mean_squared_error: 1.2106 - rmse: 0.9950 -
mean_absolute_percentage_error: 101.5337
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.1762 -
mean_absolute_error: 0.5096 - mean_squared_error: 1.1762 - rmse: 0.9060 -
mean_absolute_percentage_error: 106.6344
Epoch 6/50
10/10 [=====] - 0s 2ms/step - loss: 1.1359 -
mean_absolute_error: 0.4830 - mean_squared_error: 1.1359 - rmse: 0.9691 -
mean_absolute_percentage_error: 107.8331
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.0969 -
mean_absolute_error: 0.4539 - mean_squared_error: 1.0969 - rmse: 0.8765 -
mean_absolute_percentage_error: 115.5064
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 1.0559 -
mean_absolute_error: 0.4309 - mean_squared_error: 1.0559 - rmse: 0.8901 -
mean_absolute_percentage_error: 127.2364
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 1.0219 -
mean_absolute_error: 0.4128 - mean_squared_error: 1.0219 - rmse: 0.8396 -
mean_absolute_percentage_error: 141.1675
Epoch 10/50
10/10 [=====] - 0s 4ms/step - loss: 0.9842 -
mean_absolute_error: 0.3975 - mean_squared_error: 0.9842 - rmse: 0.8617 -
mean_absolute_percentage_error: 153.1435
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9505 -

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mean_absolute_error: 0.3854 - mean_squared_error: 0.9505 - rmse: 0.8694 -
mean_absolute_percentage_error: 166.1057
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.9185 -
mean_absolute_error: 0.3749 - mean_squared_error: 0.9185 - rmse: 0.8463 -
mean_absolute_percentage_error: 178.5094
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.8934 -
mean_absolute_error: 0.3661 - mean_squared_error: 0.8934 - rmse: 0.8356 -
mean_absolute_percentage_error: 191.2603
Epoch 14/50
10/10 [=====] - 0s 4ms/step - loss: 0.8685 -
mean_absolute_error: 0.3574 - mean_squared_error: 0.8685 - rmse: 0.7305 -
mean_absolute_percentage_error: 203.2504
Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8499 -
mean_absolute_error: 0.3515 - mean_squared_error: 0.8499 - rmse: 0.7403 -
mean_absolute_percentage_error: 211.8238
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8352 -
mean_absolute_error: 0.3478 - mean_squared_error: 0.8352 - rmse: 0.7806 -
mean_absolute_percentage_error: 222.4864
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.8205 -
mean_absolute_error: 0.3455 - mean_squared_error: 0.8205 - rmse: 0.7683 -
mean_absolute_percentage_error: 228.0055
Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.8093 -
mean_absolute_error: 0.3428 - mean_squared_error: 0.8093 - rmse: 0.7754 -
mean_absolute_percentage_error: 231.7522
Epoch 19/50
10/10 [=====] - 0s 5ms/step - loss: 0.8002 -
mean_absolute_error: 0.3406 - mean_squared_error: 0.8002 - rmse: 0.7567 -
mean_absolute_percentage_error: 235.5133
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.7915 -
mean_absolute_error: 0.3399 - mean_squared_error: 0.7915 - rmse: 0.7533 -
mean_absolute_percentage_error: 238.4705
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.7851 -
mean_absolute_error: 0.3401 - mean_squared_error: 0.7851 - rmse: 0.7624 -
mean_absolute_percentage_error: 241.2047
Epoch 22/50
10/10 [=====] - 0s 5ms/step - loss: 0.7795 -
mean_absolute_error: 0.3398 - mean_squared_error: 0.7795 - rmse: 0.7825 -
mean_absolute_percentage_error: 242.5513
Epoch 23/50
10/10 [=====] - 0s 4ms/step - loss: 0.7740 -

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mean_absolute_error: 0.3388 - mean_squared_error: 0.7740 - rmse: 0.7240 -
mean_absolute_percentage_error: 243.7031
Epoch 24/50
10/10 [=====] - 0s 4ms/step - loss: 0.7717 -
mean_absolute_error: 0.3408 - mean_squared_error: 0.7717 - rmse: 0.7233 -
mean_absolute_percentage_error: 247.7232
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7665 -
mean_absolute_error: 0.3396 - mean_squared_error: 0.7665 - rmse: 0.6990 -
mean_absolute_percentage_error: 246.4269
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7631 -
mean_absolute_error: 0.3386 - mean_squared_error: 0.7631 - rmse: 0.6493 -
mean_absolute_percentage_error: 245.7305
Epoch 27/50
10/10 [=====] - 0s 5ms/step - loss: 0.7606 -
mean_absolute_error: 0.3388 - mean_squared_error: 0.7606 - rmse: 0.7531 -
mean_absolute_percentage_error: 247.1091
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7586 -
mean_absolute_error: 0.3358 - mean_squared_error: 0.7586 - rmse: 0.6909 -
mean_absolute_percentage_error: 244.3750
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7561 -
mean_absolute_error: 0.3363 - mean_squared_error: 0.7561 - rmse: 0.7186 -
mean_absolute_percentage_error: 245.8645
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7531 -
mean_absolute_error: 0.3374 - mean_squared_error: 0.7531 - rmse: 0.7663 -
mean_absolute_percentage_error: 246.6597
Epoch 31/50
10/10 [=====] - 0s 4ms/step - loss: 0.7514 -
mean_absolute_error: 0.3368 - mean_squared_error: 0.7514 - rmse: 0.7418 -
mean_absolute_percentage_error: 246.3121
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.7500 -
mean_absolute_error: 0.3344 - mean_squared_error: 0.7500 - rmse: 0.7648 -
mean_absolute_percentage_error: 242.7732
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7471 -
mean_absolute_error: 0.3323 - mean_squared_error: 0.7471 - rmse: 0.7257 -
mean_absolute_percentage_error: 239.6100
Epoch 34/50
10/10 [=====] - 0s 4ms/step - loss: 0.7471 -
mean_absolute_error: 0.3346 - mean_squared_error: 0.7471 - rmse: 0.7162 -
mean_absolute_percentage_error: 242.9820
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7436 -

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mean_absolute_error: 0.3350 - mean_squared_error: 0.7436 - rmse: 0.7499 -
mean_absolute_percentage_error: 242.6191
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7418 -
mean_absolute_error: 0.3336 - mean_squared_error: 0.7418 - rmse: 0.7613 -
mean_absolute_percentage_error: 240.4598
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7417 -
mean_absolute_error: 0.3314 - mean_squared_error: 0.7417 - rmse: 0.7214 -
mean_absolute_percentage_error: 237.1693
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7393 -
mean_absolute_error: 0.3303 - mean_squared_error: 0.7393 - rmse: 0.7344 -
mean_absolute_percentage_error: 235.6028
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7387 -
mean_absolute_error: 0.3318 - mean_squared_error: 0.7387 - rmse: 0.6894 -
mean_absolute_percentage_error: 237.6285
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.7375 -
mean_absolute_error: 0.3315 - mean_squared_error: 0.7375 - rmse: 0.7010 -
mean_absolute_percentage_error: 237.2330
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.7378 -
mean_absolute_error: 0.3336 - mean_squared_error: 0.7378 - rmse: 0.7189 -
mean_absolute_percentage_error: 237.0515
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7346 -
mean_absolute_error: 0.3323 - mean_squared_error: 0.7346 - rmse: 0.7420 -
mean_absolute_percentage_error: 237.5845
Epoch 43/50
10/10 [=====] - 0s 4ms/step - loss: 0.7341 -
mean_absolute_error: 0.3304 - mean_squared_error: 0.7341 - rmse: 0.6981 -
mean_absolute_percentage_error: 235.5311
Epoch 44/50
10/10 [=====] - 0s 4ms/step - loss: 0.7334 -
mean_absolute_error: 0.3313 - mean_squared_error: 0.7334 - rmse: 0.7242 -
mean_absolute_percentage_error: 235.8964
Epoch 45/50
10/10 [=====] - 0s 5ms/step - loss: 0.7324 -
mean_absolute_error: 0.3301 - mean_squared_error: 0.7324 - rmse: 0.7260 -
mean_absolute_percentage_error: 234.5594
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.7310 -
mean_absolute_error: 0.3298 - mean_squared_error: 0.7310 - rmse: 0.7168 -
mean_absolute_percentage_error: 233.3130
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7303 -

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mean_absolute_error: 0.3316 - mean_squared_error: 0.7303 - rmse: 0.7302 -
mean_absolute_percentage_error: 234.8403
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.7292 -
mean_absolute_error: 0.3317 - mean_squared_error: 0.7292 - rmse: 0.6744 -
mean_absolute_percentage_error: 234.6301
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7290 -
mean_absolute_error: 0.3291 - mean_squared_error: 0.7290 - rmse: 0.7434 -
mean_absolute_percentage_error: 231.2521
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7277 -
mean_absolute_error: 0.3289 - mean_squared_error: 0.7277 - rmse: 0.7389 -
mean_absolute_percentage_error: 230.6502
5/5 [=====] - 0s 2ms/step - loss: 0.2398 -
mean_absolute_error: 0.2969 - mean_squared_error: 0.2398 - rmse: 0.4742 -
mean_absolute_percentage_error: 219.7885
5/5 [=====] - 0s 2ms/step
No Regularizer chosen
-----
Training for fold 6 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 0.9113 -
mean_absolute_error: 0.5471 - mean_squared_error: 0.9113 - rmse: 0.8291 -
mean_absolute_percentage_error: 101.8007
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 0.8991 -
mean_absolute_error: 0.5377 - mean_squared_error: 0.8991 - rmse: 0.8321 -
mean_absolute_percentage_error: 101.1423
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 0.8874 -
mean_absolute_error: 0.5282 - mean_squared_error: 0.8874 - rmse: 0.8414 -
mean_absolute_percentage_error: 100.7724
Epoch 4/50
10/10 [=====] - 0s 4ms/step - loss: 0.8707 -
mean_absolute_error: 0.5156 - mean_squared_error: 0.8707 - rmse: 0.8277 -
mean_absolute_percentage_error: 100.5411
Epoch 5/50
10/10 [=====] - 0s 4ms/step - loss: 0.8462 -
mean_absolute_error: 0.4984 - mean_squared_error: 0.8462 - rmse: 0.7971 -
mean_absolute_percentage_error: 101.9034
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 0.8170 -
mean_absolute_error: 0.4756 - mean_squared_error: 0.8170 - rmse: 0.8099 -
mean_absolute_percentage_error: 102.5163
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 0.7815 -
mean_absolute_error: 0.4486 - mean_squared_error: 0.7815 - rmse: 0.7351 -

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mean_absolute_percentage_error: 107.6392
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 0.7467 -
mean_absolute_error: 0.4190 - mean_squared_error: 0.7467 - rmse: 0.7316 -
mean_absolute_percentage_error: 114.7253
Epoch 9/50
10/10 [=====] - 0s 4ms/step - loss: 0.7107 -
mean_absolute_error: 0.3918 - mean_squared_error: 0.7107 - rmse: 0.7074 -
mean_absolute_percentage_error: 126.9475
Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.6777 -
mean_absolute_error: 0.3675 - mean_squared_error: 0.6777 - rmse: 0.6889 -
mean_absolute_percentage_error: 135.0115
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.6531 -
mean_absolute_error: 0.3530 - mean_squared_error: 0.6531 - rmse: 0.6719 -
mean_absolute_percentage_error: 148.6679
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.6284 -
mean_absolute_error: 0.3418 - mean_squared_error: 0.6284 - rmse: 0.6789 -
mean_absolute_percentage_error: 161.3703
Epoch 13/50
10/10 [=====] - 0s 4ms/step - loss: 0.6085 -
mean_absolute_error: 0.3337 - mean_squared_error: 0.6085 - rmse: 0.6684 -
mean_absolute_percentage_error: 172.4452
Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.5923 -
mean_absolute_error: 0.3266 - mean_squared_error: 0.5923 - rmse: 0.6704 -
mean_absolute_percentage_error: 184.8461
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.5786 -
mean_absolute_error: 0.3172 - mean_squared_error: 0.5786 - rmse: 0.5716 -
mean_absolute_percentage_error: 192.4197
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.5707 -
mean_absolute_error: 0.3105 - mean_squared_error: 0.5707 - rmse: 0.6114 -
mean_absolute_percentage_error: 202.1207
Epoch 17/50
10/10 [=====] - 0s 4ms/step - loss: 0.5603 -
mean_absolute_error: 0.3043 - mean_squared_error: 0.5603 - rmse: 0.6008 -
mean_absolute_percentage_error: 209.5879
Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.5493 -
mean_absolute_error: 0.2929 - mean_squared_error: 0.5493 - rmse: 0.6054 -
mean_absolute_percentage_error: 209.7065
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.5416 -
mean_absolute_error: 0.2833 - mean_squared_error: 0.5416 - rmse: 0.5884 -

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mean_absolute_percentage_error: 208.1316
Epoch 20/50
10/10 [=====] - 0s 4ms/step - loss: 0.5336 -
mean_absolute_error: 0.2780 - mean_squared_error: 0.5336 - rmse: 0.5812 -
mean_absolute_percentage_error: 208.8772
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.5257 -
mean_absolute_error: 0.2720 - mean_squared_error: 0.5257 - rmse: 0.6119 -
mean_absolute_percentage_error: 207.7660
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.5199 -
mean_absolute_error: 0.2713 - mean_squared_error: 0.5199 - rmse: 0.5891 -
mean_absolute_percentage_error: 207.7815
Epoch 23/50
10/10 [=====] - 0s 4ms/step - loss: 0.5142 -
mean_absolute_error: 0.2684 - mean_squared_error: 0.5142 - rmse: 0.5386 -
mean_absolute_percentage_error: 205.5366
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.5116 -
mean_absolute_error: 0.2696 - mean_squared_error: 0.5116 - rmse: 0.5718 -
mean_absolute_percentage_error: 209.2128
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.5079 -
mean_absolute_error: 0.2715 - mean_squared_error: 0.5079 - rmse: 0.5468 -
mean_absolute_percentage_error: 212.8412
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.5034 -
mean_absolute_error: 0.2694 - mean_squared_error: 0.5034 - rmse: 0.5937 -
mean_absolute_percentage_error: 211.4030
Epoch 27/50
10/10 [=====] - 0s 4ms/step - loss: 0.5010 -
mean_absolute_error: 0.2663 - mean_squared_error: 0.5010 - rmse: 0.5265 -
mean_absolute_percentage_error: 208.7743
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.4989 -
mean_absolute_error: 0.2659 - mean_squared_error: 0.4989 - rmse: 0.5772 -
mean_absolute_percentage_error: 210.0395
Epoch 29/50
10/10 [=====] - 0s 4ms/step - loss: 0.4968 -
mean_absolute_error: 0.2664 - mean_squared_error: 0.4968 - rmse: 0.5586 -
mean_absolute_percentage_error: 213.1879
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.4943 -
mean_absolute_error: 0.2664 - mean_squared_error: 0.4943 - rmse: 0.5428 -
mean_absolute_percentage_error: 215.1538
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.4918 -
mean_absolute_error: 0.2637 - mean_squared_error: 0.4918 - rmse: 0.5832 -

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mean_absolute_percentage_error: 212.9115
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.4906 -
mean_absolute_error: 0.2621 - mean_squared_error: 0.4906 - rmse: 0.5338 -
mean_absolute_percentage_error: 211.6154
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.4893 -
mean_absolute_error: 0.2611 - mean_squared_error: 0.4893 - rmse: 0.5300 -
mean_absolute_percentage_error: 211.1297
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.4883 -
mean_absolute_error: 0.2603 - mean_squared_error: 0.4883 - rmse: 0.5579 -
mean_absolute_percentage_error: 211.0924
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.4868 -
mean_absolute_error: 0.2586 - mean_squared_error: 0.4868 - rmse: 0.5584 -
mean_absolute_percentage_error: 208.9293
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.4852 -
mean_absolute_error: 0.2570 - mean_squared_error: 0.4852 - rmse: 0.5611 -
mean_absolute_percentage_error: 207.0475
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.4843 -
mean_absolute_error: 0.2567 - mean_squared_error: 0.4843 - rmse: 0.5709 -
mean_absolute_percentage_error: 206.7776
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.4832 -
mean_absolute_error: 0.2569 - mean_squared_error: 0.4832 - rmse: 0.5616 -
mean_absolute_percentage_error: 206.9599
Epoch 39/50
10/10 [=====] - 0s 4ms/step - loss: 0.4823 -
mean_absolute_error: 0.2574 - mean_squared_error: 0.4823 - rmse: 0.5645 -
mean_absolute_percentage_error: 208.9119
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.4815 -
mean_absolute_error: 0.2562 - mean_squared_error: 0.4815 - rmse: 0.5809 -
mean_absolute_percentage_error: 206.6752
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.4803 -
mean_absolute_error: 0.2563 - mean_squared_error: 0.4803 - rmse: 0.5600 -
mean_absolute_percentage_error: 206.1395
Epoch 42/50
10/10 [=====] - 0s 5ms/step - loss: 0.4792 -
mean_absolute_error: 0.2556 - mean_squared_error: 0.4792 - rmse: 0.5716 -
mean_absolute_percentage_error: 205.5240
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.4790 -
mean_absolute_error: 0.2547 - mean_squared_error: 0.4790 - rmse: 0.5161 -

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mean_absolute_percentage_error: 202.3469
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.4777 -
mean_absolute_error: 0.2533 - mean_squared_error: 0.4777 - rmse: 0.5567 -
mean_absolute_percentage_error: 200.8473
Epoch 45/50
10/10 [=====] - 0s 4ms/step - loss: 0.4770 -
mean_absolute_error: 0.2537 - mean_squared_error: 0.4770 - rmse: 0.5486 -
mean_absolute_percentage_error: 201.8773
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.4764 -
mean_absolute_error: 0.2539 - mean_squared_error: 0.4764 - rmse: 0.5577 -
mean_absolute_percentage_error: 201.6590
Epoch 47/50
10/10 [=====] - 0s 4ms/step - loss: 0.4759 -
mean_absolute_error: 0.2548 - mean_squared_error: 0.4759 - rmse: 0.5741 -
mean_absolute_percentage_error: 202.4583
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.4751 -
mean_absolute_error: 0.2543 - mean_squared_error: 0.4751 - rmse: 0.5306 -
mean_absolute_percentage_error: 201.7779
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.4742 -
mean_absolute_error: 0.2523 - mean_squared_error: 0.4742 - rmse: 0.5474 -
mean_absolute_percentage_error: 198.7924
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.4733 -
mean_absolute_error: 0.2521 - mean_squared_error: 0.4733 - rmse: 0.5473 -
mean_absolute_percentage_error: 198.8887
5/5 [=====] - 0s 2ms/step - loss: 0.2125 -
mean_absolute_error: 0.2601 - mean_squared_error: 0.2125 - rmse: 0.4458 -
mean_absolute_percentage_error: 183.9739
5/5 [=====] - 0s 2ms/step
No Regularizer chosen
-----
Training for fold 7 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2822 -
mean_absolute_error: 0.5931 - mean_squared_error: 1.2822 - rmse: 0.9769 -
mean_absolute_percentage_error: 101.9580
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 1.2657 -
mean_absolute_error: 0.5869 - mean_squared_error: 1.2657 - rmse: 1.0139 -
mean_absolute_percentage_error: 104.1931
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.2383 -
mean_absolute_error: 0.5777 - mean_squared_error: 1.2383 - rmse: 0.9955 -
mean_absolute_percentage_error: 105.4721

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Epoch 4/50
10/10 [=====] - 0s 4ms/step - loss: 1.2049 -
mean_absolute_error: 0.5664 - mean_squared_error: 1.2049 - rmse: 0.9824 -
mean_absolute_percentage_error: 111.2879

Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1594 -
mean_absolute_error: 0.5533 - mean_squared_error: 1.1594 - rmse: 0.9386 -
mean_absolute_percentage_error: 119.5793

Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1083 -
mean_absolute_error: 0.5361 - mean_squared_error: 1.1083 - rmse: 0.9368 -
mean_absolute_percentage_error: 128.7608

Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.0615 -
mean_absolute_error: 0.5201 - mean_squared_error: 1.0615 - rmse: 0.9139 -
mean_absolute_percentage_error: 138.5725

Epoch 8/50
10/10 [=====] - 0s 4ms/step - loss: 1.0144 -
mean_absolute_error: 0.5050 - mean_squared_error: 1.0144 - rmse: 0.8124 -
mean_absolute_percentage_error: 155.7160

Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 0.9683 -
mean_absolute_error: 0.4916 - mean_squared_error: 0.9683 - rmse: 0.8789 -
mean_absolute_percentage_error: 169.4770

Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.9303 -
mean_absolute_error: 0.4770 - mean_squared_error: 0.9303 - rmse: 0.7802 -
mean_absolute_percentage_error: 177.5481

Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.9008 -
mean_absolute_error: 0.4620 - mean_squared_error: 0.9008 - rmse: 0.8184 -
mean_absolute_percentage_error: 183.5686

Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.8840 -
mean_absolute_error: 0.4500 - mean_squared_error: 0.8840 - rmse: 0.7895 -
mean_absolute_percentage_error: 191.1340

Epoch 13/50
10/10 [=====] - 0s 4ms/step - loss: 0.8633 -
mean_absolute_error: 0.4376 - mean_squared_error: 0.8633 - rmse: 0.7931 -
mean_absolute_percentage_error: 196.9753

Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.8467 -
mean_absolute_error: 0.4227 - mean_squared_error: 0.8467 - rmse: 0.8296 -
mean_absolute_percentage_error: 196.8350

Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.8374 -
mean_absolute_error: 0.4121 - mean_squared_error: 0.8374 - rmse: 0.7987 -
mean_absolute_percentage_error: 198.9322

Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8261 -
mean_absolute_error: 0.3996 - mean_squared_error: 0.8261 - rmse: 0.7693 -
mean_absolute_percentage_error: 195.4932

Epoch 17/50
10/10 [=====] - 0s 4ms/step - loss: 0.8170 -
mean_absolute_error: 0.3906 - mean_squared_error: 0.8170 - rmse: 0.7999 -
mean_absolute_percentage_error: 194.0077

Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.8094 -
mean_absolute_error: 0.3835 - mean_squared_error: 0.8094 - rmse: 0.7841 -
mean_absolute_percentage_error: 193.6801

Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.8028 -
mean_absolute_error: 0.3758 - mean_squared_error: 0.8028 - rmse: 0.7411 -
mean_absolute_percentage_error: 191.6861

Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.7966 -
mean_absolute_error: 0.3702 - mean_squared_error: 0.7966 - rmse: 0.7846 -
mean_absolute_percentage_error: 192.0610

Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.7896 -
mean_absolute_error: 0.3645 - mean_squared_error: 0.7896 - rmse: 0.7561 -
mean_absolute_percentage_error: 190.5082

Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.7852 -
mean_absolute_error: 0.3559 - mean_squared_error: 0.7852 - rmse: 0.7674 -
mean_absolute_percentage_error: 185.9836

Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.7800 -
mean_absolute_error: 0.3505 - mean_squared_error: 0.7800 - rmse: 0.7585 -
mean_absolute_percentage_error: 184.2035

Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7754 -
mean_absolute_error: 0.3456 - mean_squared_error: 0.7754 - rmse: 0.7548 -
mean_absolute_percentage_error: 183.1867

Epoch 25/50
10/10 [=====] - 0s 5ms/step - loss: 0.7710 -
mean_absolute_error: 0.3418 - mean_squared_error: 0.7710 - rmse: 0.7373 -
mean_absolute_percentage_error: 182.7905

Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7691 -
mean_absolute_error: 0.3386 - mean_squared_error: 0.7691 - rmse: 0.6817 -
mean_absolute_percentage_error: 181.9633

Epoch 27/50
10/10 [=====] - 0s 4ms/step - loss: 0.7643 -
mean_absolute_error: 0.3368 - mean_squared_error: 0.7643 - rmse: 0.7487 -
mean_absolute_percentage_error: 182.0296

Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7650 -
mean_absolute_error: 0.3288 - mean_squared_error: 0.7650 - rmse: 0.7262 -
mean_absolute_percentage_error: 176.5972
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7584 -
mean_absolute_error: 0.3243 - mean_squared_error: 0.7584 - rmse: 0.7153 -
mean_absolute_percentage_error: 173.3117
Epoch 30/50
10/10 [=====] - 0s 4ms/step - loss: 0.7535 -
mean_absolute_error: 0.3233 - mean_squared_error: 0.7535 - rmse: 0.7574 -
mean_absolute_percentage_error: 174.4242
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7501 -
mean_absolute_error: 0.3213 - mean_squared_error: 0.7501 - rmse: 0.7249 -
mean_absolute_percentage_error: 173.1255
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.7467 -
mean_absolute_error: 0.3186 - mean_squared_error: 0.7467 - rmse: 0.7377 -
mean_absolute_percentage_error: 171.3892
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7441 -
mean_absolute_error: 0.3185 - mean_squared_error: 0.7441 - rmse: 0.7533 -
mean_absolute_percentage_error: 173.0351
Epoch 34/50
10/10 [=====] - 0s 4ms/step - loss: 0.7397 -
mean_absolute_error: 0.3178 - mean_squared_error: 0.7397 - rmse: 0.7570 -
mean_absolute_percentage_error: 172.3906
Epoch 35/50
10/10 [=====] - 0s 4ms/step - loss: 0.7375 -
mean_absolute_error: 0.3180 - mean_squared_error: 0.7375 - rmse: 0.7121 -
mean_absolute_percentage_error: 171.8699
Epoch 36/50
10/10 [=====] - 0s 5ms/step - loss: 0.7348 -
mean_absolute_error: 0.3152 - mean_squared_error: 0.7348 - rmse: 0.6978 -
mean_absolute_percentage_error: 169.4552
Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.7325 -
mean_absolute_error: 0.3142 - mean_squared_error: 0.7325 - rmse: 0.6926 -
mean_absolute_percentage_error: 168.4507
Epoch 38/50
10/10 [=====] - 0s 4ms/step - loss: 0.7304 -
mean_absolute_error: 0.3154 - mean_squared_error: 0.7304 - rmse: 0.7214 -
mean_absolute_percentage_error: 169.5970
Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.7269 -
mean_absolute_error: 0.3148 - mean_squared_error: 0.7269 - rmse: 0.7040 -
mean_absolute_percentage_error: 170.2816

Epoch 40/50
10/10 [=====] - 0s 4ms/step - loss: 0.7256 -
mean_absolute_error: 0.3129 - mean_squared_error: 0.7256 - rmse: 0.7488 -
mean_absolute_percentage_error: 167.6332

Epoch 41/50
10/10 [=====] - 0s 5ms/step - loss: 0.7243 -
mean_absolute_error: 0.3099 - mean_squared_error: 0.7243 - rmse: 0.7236 -
mean_absolute_percentage_error: 165.0811

Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.7251 -
mean_absolute_error: 0.3126 - mean_squared_error: 0.7251 - rmse: 0.7560 -
mean_absolute_percentage_error: 167.5986

Epoch 43/50
10/10 [=====] - 0s 4ms/step - loss: 0.7214 -
mean_absolute_error: 0.3110 - mean_squared_error: 0.7214 - rmse: 0.7225 -
mean_absolute_percentage_error: 167.0134

Epoch 44/50
10/10 [=====] - 0s 4ms/step - loss: 0.7188 -
mean_absolute_error: 0.3093 - mean_squared_error: 0.7188 - rmse: 0.7325 -
mean_absolute_percentage_error: 165.3989

Epoch 45/50
10/10 [=====] - 0s 4ms/step - loss: 0.7177 -
mean_absolute_error: 0.3084 - mean_squared_error: 0.7177 - rmse: 0.6960 -
mean_absolute_percentage_error: 164.9129

Epoch 46/50
10/10 [=====] - 0s 6ms/step - loss: 0.7161 -
mean_absolute_error: 0.3079 - mean_squared_error: 0.7161 - rmse: 0.7298 -
mean_absolute_percentage_error: 164.8412

Epoch 47/50
10/10 [=====] - 0s 5ms/step - loss: 0.7148 -
mean_absolute_error: 0.3080 - mean_squared_error: 0.7148 - rmse: 0.7194 -
mean_absolute_percentage_error: 164.6922

Epoch 48/50
10/10 [=====] - 0s 5ms/step - loss: 0.7164 -
mean_absolute_error: 0.3064 - mean_squared_error: 0.7164 - rmse: 0.6510 -
mean_absolute_percentage_error: 163.7105

Epoch 49/50
10/10 [=====] - 0s 5ms/step - loss: 0.7127 -
mean_absolute_error: 0.3041 - mean_squared_error: 0.7127 - rmse: 0.7029 -
mean_absolute_percentage_error: 161.1357

Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7153 -
mean_absolute_error: 0.3091 - mean_squared_error: 0.7153 - rmse: 0.7173 -
mean_absolute_percentage_error: 166.8571
5/5 [=====] - 0s 3ms/step - loss: 0.2558 -
mean_absolute_error: 0.2971 - mean_squared_error: 0.2558 - rmse: 0.4903 -
mean_absolute_percentage_error: 230.9056
5/5 [=====] - 0s 1ms/step

No Regularizer chosen

Training for fold 8 ...

Epoch 1/50

10/10 [=====] - 1s 2ms/step - loss: 1.2824 -
mean_absolute_error: 0.5801 - mean_squared_error: 1.2824 - rmse: 0.9803 -
mean_absolute_percentage_error: 99.5168

Epoch 2/50

10/10 [=====] - 0s 3ms/step - loss: 1.2688 -
mean_absolute_error: 0.5703 - mean_squared_error: 1.2688 - rmse: 1.0039 -
mean_absolute_percentage_error: 95.9999

Epoch 3/50

10/10 [=====] - 0s 3ms/step - loss: 1.2527 -
mean_absolute_error: 0.5564 - mean_squared_error: 1.2527 - rmse: 1.0172 -
mean_absolute_percentage_error: 92.4810

Epoch 4/50

10/10 [=====] - 0s 2ms/step - loss: 1.2312 -
mean_absolute_error: 0.5376 - mean_squared_error: 1.2312 - rmse: 1.0021 -
mean_absolute_percentage_error: 90.2954

Epoch 5/50

10/10 [=====] - 0s 2ms/step - loss: 1.2066 -
mean_absolute_error: 0.5139 - mean_squared_error: 1.2066 - rmse: 0.9422 -
mean_absolute_percentage_error: 88.2270

Epoch 6/50

10/10 [=====] - 0s 3ms/step - loss: 1.1787 -
mean_absolute_error: 0.4889 - mean_squared_error: 1.1787 - rmse: 1.0002 -
mean_absolute_percentage_error: 90.1297

Epoch 7/50

10/10 [=====] - 0s 4ms/step - loss: 1.1500 -
mean_absolute_error: 0.4661 - mean_squared_error: 1.1500 - rmse: 0.9015 -
mean_absolute_percentage_error: 92.4896

Epoch 8/50

10/10 [=====] - 0s 3ms/step - loss: 1.1213 -
mean_absolute_error: 0.4484 - mean_squared_error: 1.1213 - rmse: 0.8873 -
mean_absolute_percentage_error: 97.3267

Epoch 9/50

10/10 [=====] - 0s 3ms/step - loss: 1.0902 -
mean_absolute_error: 0.4362 - mean_squared_error: 1.0902 - rmse: 0.9399 -
mean_absolute_percentage_error: 107.0926

Epoch 10/50

10/10 [=====] - 0s 2ms/step - loss: 1.0593 -
mean_absolute_error: 0.4235 - mean_squared_error: 1.0593 - rmse: 0.8680 -
mean_absolute_percentage_error: 116.2642

Epoch 11/50

10/10 [=====] - 0s 2ms/step - loss: 1.0258 -
mean_absolute_error: 0.4107 - mean_squared_error: 1.0258 - rmse: 0.8646 -
mean_absolute_percentage_error: 127.0260

Epoch 12/50

10/10 [=====] - 0s 3ms/step - loss: 1.0002 -
mean_absolute_error: 0.3988 - mean_squared_error: 1.0002 - rmse: 0.8987 -
mean_absolute_percentage_error: 138.1863
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.9677 -
mean_absolute_error: 0.3857 - mean_squared_error: 0.9677 - rmse: 0.7811 -
mean_absolute_percentage_error: 147.7803
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.9418 -
mean_absolute_error: 0.3747 - mean_squared_error: 0.9418 - rmse: 0.8551 -
mean_absolute_percentage_error: 158.0443
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.9173 -
mean_absolute_error: 0.3634 - mean_squared_error: 0.9173 - rmse: 0.8133 -
mean_absolute_percentage_error: 168.0885
Epoch 16/50
10/10 [=====] - 0s 4ms/step - loss: 0.8963 -
mean_absolute_error: 0.3547 - mean_squared_error: 0.8963 - rmse: 0.7605 -
mean_absolute_percentage_error: 180.0143
Epoch 17/50
10/10 [=====] - 0s 4ms/step - loss: 0.8711 -
mean_absolute_error: 0.3469 - mean_squared_error: 0.8711 - rmse: 0.7812 -
mean_absolute_percentage_error: 187.4368
Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.8534 -
mean_absolute_error: 0.3416 - mean_squared_error: 0.8534 - rmse: 0.7646 -
mean_absolute_percentage_error: 194.9653
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.8348 -
mean_absolute_error: 0.3349 - mean_squared_error: 0.8348 - rmse: 0.7740 -
mean_absolute_percentage_error: 201.0491
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.8190 -
mean_absolute_error: 0.3322 - mean_squared_error: 0.8190 - rmse: 0.7490 -
mean_absolute_percentage_error: 209.8149
Epoch 21/50
10/10 [=====] - 0s 4ms/step - loss: 0.8035 -
mean_absolute_error: 0.3282 - mean_squared_error: 0.8035 - rmse: 0.7591 -
mean_absolute_percentage_error: 211.9859
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.7941 -
mean_absolute_error: 0.3284 - mean_squared_error: 0.7941 - rmse: 0.7158 -
mean_absolute_percentage_error: 214.9888
Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.7853 -
mean_absolute_error: 0.3312 - mean_squared_error: 0.7853 - rmse: 0.7565 -
mean_absolute_percentage_error: 223.7710
Epoch 24/50

10/10 [=====] - 0s 3ms/step - loss: 0.7754 -
mean_absolute_error: 0.3321 - mean_squared_error: 0.7754 - rmse: 0.7622 -
mean_absolute_percentage_error: 225.8352
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7693 -
mean_absolute_error: 0.3331 - mean_squared_error: 0.7693 - rmse: 0.7295 -
mean_absolute_percentage_error: 228.4927
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7622 -
mean_absolute_error: 0.3337 - mean_squared_error: 0.7622 - rmse: 0.7359 -
mean_absolute_percentage_error: 230.3674
Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.7566 -
mean_absolute_error: 0.3339 - mean_squared_error: 0.7566 - rmse: 0.7628 -
mean_absolute_percentage_error: 234.0194
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7510 -
mean_absolute_error: 0.3315 - mean_squared_error: 0.7510 - rmse: 0.7551 -
mean_absolute_percentage_error: 234.6053
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7502 -
mean_absolute_error: 0.3328 - mean_squared_error: 0.7502 - rmse: 0.6983 -
mean_absolute_percentage_error: 237.1977
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7452 -
mean_absolute_error: 0.3341 - mean_squared_error: 0.7452 - rmse: 0.7176 -
mean_absolute_percentage_error: 240.6771
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7417 -
mean_absolute_error: 0.3316 - mean_squared_error: 0.7417 - rmse: 0.7550 -
mean_absolute_percentage_error: 237.9494
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7402 -
mean_absolute_error: 0.3297 - mean_squared_error: 0.7402 - rmse: 0.6591 -
mean_absolute_percentage_error: 234.9163
Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.7364 -
mean_absolute_error: 0.3295 - mean_squared_error: 0.7364 - rmse: 0.7489 -
mean_absolute_percentage_error: 233.9169
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.7348 -
mean_absolute_error: 0.3301 - mean_squared_error: 0.7348 - rmse: 0.7250 -
mean_absolute_percentage_error: 234.6557
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7319 -
mean_absolute_error: 0.3299 - mean_squared_error: 0.7319 - rmse: 0.7470 -
mean_absolute_percentage_error: 234.5741
Epoch 36/50

10/10 [=====] - 0s 3ms/step - loss: 0.7310 -
mean_absolute_error: 0.3278 - mean_squared_error: 0.7310 - rmse: 0.7215 -
mean_absolute_percentage_error: 231.8070
Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.7293 -
mean_absolute_error: 0.3265 - mean_squared_error: 0.7293 - rmse: 0.7043 -
mean_absolute_percentage_error: 226.8602
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7285 -
mean_absolute_error: 0.3292 - mean_squared_error: 0.7285 - rmse: 0.7017 -
mean_absolute_percentage_error: 229.7792
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7252 -
mean_absolute_error: 0.3296 - mean_squared_error: 0.7252 - rmse: 0.6728 -
mean_absolute_percentage_error: 231.6382
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7251 -
mean_absolute_error: 0.3267 - mean_squared_error: 0.7251 - rmse: 0.6850 -
mean_absolute_percentage_error: 226.0900
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7219 -
mean_absolute_error: 0.3262 - mean_squared_error: 0.7219 - rmse: 0.7401 -
mean_absolute_percentage_error: 224.8764
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7214 -
mean_absolute_error: 0.3291 - mean_squared_error: 0.7214 - rmse: 0.7463 -
mean_absolute_percentage_error: 228.3174
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7198 -
mean_absolute_error: 0.3288 - mean_squared_error: 0.7198 - rmse: 0.7326 -
mean_absolute_percentage_error: 226.7193
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7188 -
mean_absolute_error: 0.3271 - mean_squared_error: 0.7188 - rmse: 0.7045 -
mean_absolute_percentage_error: 223.7147
Epoch 45/50
10/10 [=====] - 0s 3ms/step - loss: 0.7185 -
mean_absolute_error: 0.3280 - mean_squared_error: 0.7185 - rmse: 0.7097 -
mean_absolute_percentage_error: 224.2923
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7166 -
mean_absolute_error: 0.3281 - mean_squared_error: 0.7166 - rmse: 0.7082 -
mean_absolute_percentage_error: 222.7625
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7156 -
mean_absolute_error: 0.3280 - mean_squared_error: 0.7156 - rmse: 0.7214 -
mean_absolute_percentage_error: 222.3394
Epoch 48/50

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10/10 [=====] - 0s 4ms/step - loss: 0.7139 -
mean_absolute_error: 0.3282 - mean_squared_error: 0.7139 - rmse: 0.7222 -
mean_absolute_percentage_error: 221.9783
Epoch 49/50
10/10 [=====] - 0s 4ms/step - loss: 0.7131 -
mean_absolute_error: 0.3260 - mean_squared_error: 0.7131 - rmse: 0.7254 -
mean_absolute_percentage_error: 217.8484
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7121 -
mean_absolute_error: 0.3258 - mean_squared_error: 0.7121 - rmse: 0.7182 -
mean_absolute_percentage_error: 217.1324
5/5 [=====] - 0s 2ms/step - loss: 0.2372 -
mean_absolute_error: 0.2994 - mean_squared_error: 0.2372 - rmse: 0.4733 -
mean_absolute_percentage_error: 215.8555
5/5 [=====] - 0s 1ms/step
No Regularizer chosen
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Training for fold 9 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 0.9507 -
mean_absolute_error: 0.5473 - mean_squared_error: 0.9507 - rmse: 0.8802 -
mean_absolute_percentage_error: 104.1945
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 0.9271 -
mean_absolute_error: 0.5378 - mean_squared_error: 0.9271 - rmse: 0.8633 -
mean_absolute_percentage_error: 107.3342
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 0.9050 -
mean_absolute_error: 0.5283 - mean_squared_error: 0.9050 - rmse: 0.8599 -
mean_absolute_percentage_error: 109.8556
Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 0.8757 -
mean_absolute_error: 0.5192 - mean_squared_error: 0.8757 - rmse: 0.8529 -
mean_absolute_percentage_error: 117.1132
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 0.8432 -
mean_absolute_error: 0.5071 - mean_squared_error: 0.8432 - rmse: 0.8589 -
mean_absolute_percentage_error: 125.0881
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 0.8070 -
mean_absolute_error: 0.4931 - mean_squared_error: 0.8070 - rmse: 0.7881 -
mean_absolute_percentage_error: 138.2341
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 0.7676 -
mean_absolute_error: 0.4764 - mean_squared_error: 0.7676 - rmse: 0.7649 -
mean_absolute_percentage_error: 152.6379
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 0.7316 -

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mean_absolute_error: 0.4600 - mean_squared_error: 0.7316 - rmse: 0.7587 -
mean_absolute_percentage_error: 161.6184
Epoch 9/50
10/10 [=====] - 0s 4ms/step - loss: 0.7030 -
mean_absolute_error: 0.4443 - mean_squared_error: 0.7030 - rmse: 0.7160 -
mean_absolute_percentage_error: 175.6179
Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.6671 -
mean_absolute_error: 0.4258 - mean_squared_error: 0.6671 - rmse: 0.7121 -
mean_absolute_percentage_error: 182.5640
Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.6475 -
mean_absolute_error: 0.4074 - mean_squared_error: 0.6475 - rmse: 0.7266 -
mean_absolute_percentage_error: 193.3576
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.6266 -
mean_absolute_error: 0.3916 - mean_squared_error: 0.6266 - rmse: 0.6967 -
mean_absolute_percentage_error: 200.0032
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.6104 -
mean_absolute_error: 0.3782 - mean_squared_error: 0.6104 - rmse: 0.6785 -
mean_absolute_percentage_error: 201.4581
Epoch 14/50
10/10 [=====] - 0s 4ms/step - loss: 0.5991 -
mean_absolute_error: 0.3688 - mean_squared_error: 0.5991 - rmse: 0.6875 -
mean_absolute_percentage_error: 206.7961
Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.5876 -
mean_absolute_error: 0.3600 - mean_squared_error: 0.5876 - rmse: 0.6566 -
mean_absolute_percentage_error: 206.7272
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.5787 -
mean_absolute_error: 0.3545 - mean_squared_error: 0.5787 - rmse: 0.6756 -
mean_absolute_percentage_error: 209.3019
Epoch 17/50
10/10 [=====] - 0s 4ms/step - loss: 0.5693 -
mean_absolute_error: 0.3474 - mean_squared_error: 0.5693 - rmse: 0.6542 -
mean_absolute_percentage_error: 209.3253
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.5617 -
mean_absolute_error: 0.3389 - mean_squared_error: 0.5617 - rmse: 0.6404 -
mean_absolute_percentage_error: 206.7185
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.5540 -
mean_absolute_error: 0.3311 - mean_squared_error: 0.5540 - rmse: 0.6488 -
mean_absolute_percentage_error: 205.8123
Epoch 20/50
10/10 [=====] - 0s 4ms/step - loss: 0.5470 -

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mean_absolute_error: 0.3250 - mean_squared_error: 0.5470 - rmse: 0.6315 -
mean_absolute_percentage_error: 206.5171
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.5408 -
mean_absolute_error: 0.3201 - mean_squared_error: 0.5408 - rmse: 0.6548 -
mean_absolute_percentage_error: 207.1005
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.5345 -
mean_absolute_error: 0.3118 - mean_squared_error: 0.5345 - rmse: 0.6500 -
mean_absolute_percentage_error: 203.7211
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.5285 -
mean_absolute_error: 0.3057 - mean_squared_error: 0.5285 - rmse: 0.5973 -
mean_absolute_percentage_error: 202.5851
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.5231 -
mean_absolute_error: 0.2985 - mean_squared_error: 0.5231 - rmse: 0.6409 -
mean_absolute_percentage_error: 199.6755
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.5207 -
mean_absolute_error: 0.2956 - mean_squared_error: 0.5207 - rmse: 0.5980 -
mean_absolute_percentage_error: 201.9958
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.5138 -
mean_absolute_error: 0.2909 - mean_squared_error: 0.5138 - rmse: 0.6180 -
mean_absolute_percentage_error: 200.5848
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.5094 -
mean_absolute_error: 0.2841 - mean_squared_error: 0.5094 - rmse: 0.6232 -
mean_absolute_percentage_error: 195.9310
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.5056 -
mean_absolute_error: 0.2771 - mean_squared_error: 0.5056 - rmse: 0.6163 -
mean_absolute_percentage_error: 191.6582
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.5031 -
mean_absolute_error: 0.2734 - mean_squared_error: 0.5031 - rmse: 0.5721 -
mean_absolute_percentage_error: 189.4984
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.4986 -
mean_absolute_error: 0.2711 - mean_squared_error: 0.4986 - rmse: 0.5930 -
mean_absolute_percentage_error: 189.7607
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.4947 -
mean_absolute_error: 0.2661 - mean_squared_error: 0.4947 - rmse: 0.6107 -
mean_absolute_percentage_error: 185.0035
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.4921 -

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mean_absolute_error: 0.2610 - mean_squared_error: 0.4921 - rmse: 0.5890 -
mean_absolute_percentage_error: 181.2312
Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.4895 -
mean_absolute_error: 0.2597 - mean_squared_error: 0.4895 - rmse: 0.5949 -
mean_absolute_percentage_error: 181.2945
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.4862 -
mean_absolute_error: 0.2561 - mean_squared_error: 0.4862 - rmse: 0.6092 -
mean_absolute_percentage_error: 178.5721
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.4826 -
mean_absolute_error: 0.2532 - mean_squared_error: 0.4826 - rmse: 0.6080 -
mean_absolute_percentage_error: 176.2268
Epoch 36/50
10/10 [=====] - 0s 4ms/step - loss: 0.4803 -
mean_absolute_error: 0.2534 - mean_squared_error: 0.4803 - rmse: 0.6187 -
mean_absolute_percentage_error: 177.4480
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.4784 -
mean_absolute_error: 0.2544 - mean_squared_error: 0.4784 - rmse: 0.6106 -
mean_absolute_percentage_error: 178.8234
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.4756 -
mean_absolute_error: 0.2530 - mean_squared_error: 0.4756 - rmse: 0.5978 -
mean_absolute_percentage_error: 177.7916
Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.4739 -
mean_absolute_error: 0.2527 - mean_squared_error: 0.4739 - rmse: 0.5781 -
mean_absolute_percentage_error: 177.2525
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.4739 -
mean_absolute_error: 0.2543 - mean_squared_error: 0.4739 - rmse: 0.5737 -
mean_absolute_percentage_error: 179.5592
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.4704 -
mean_absolute_error: 0.2523 - mean_squared_error: 0.4704 - rmse: 0.6061 -
mean_absolute_percentage_error: 176.1397
Epoch 42/50
10/10 [=====] - 0s 4ms/step - loss: 0.4685 -
mean_absolute_error: 0.2505 - mean_squared_error: 0.4685 - rmse: 0.6016 -
mean_absolute_percentage_error: 174.6438
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.4664 -
mean_absolute_error: 0.2499 - mean_squared_error: 0.4664 - rmse: 0.5855 -
mean_absolute_percentage_error: 174.1222
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.4648 -

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mean_absolute_error: 0.2487 - mean_squared_error: 0.4648 - rmse: 0.5880 -
mean_absolute_percentage_error: 171.3048
Epoch 45/50
10/10 [=====] - 0s 4ms/step - loss: 0.4632 -
mean_absolute_error: 0.2482 - mean_squared_error: 0.4632 - rmse: 0.6069 -
mean_absolute_percentage_error: 170.4621
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.4618 -
mean_absolute_error: 0.2468 - mean_squared_error: 0.4618 - rmse: 0.5780 -
mean_absolute_percentage_error: 169.5172
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.4624 -
mean_absolute_error: 0.2481 - mean_squared_error: 0.4624 - rmse: 0.5847 -
mean_absolute_percentage_error: 170.1991
Epoch 48/50
10/10 [=====] - 0s 4ms/step - loss: 0.4595 -
mean_absolute_error: 0.2480 - mean_squared_error: 0.4595 - rmse: 0.5809 -
mean_absolute_percentage_error: 171.1299
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.4577 -
mean_absolute_error: 0.2459 - mean_squared_error: 0.4577 - rmse: 0.5874 -
mean_absolute_percentage_error: 168.5656
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.4576 -
mean_absolute_error: 0.2433 - mean_squared_error: 0.4576 - rmse: 0.5633 -
mean_absolute_percentage_error: 164.6073
5/5 [=====] - 1s 2ms/step - loss: 0.2096 -
mean_absolute_error: 0.2432 - mean_squared_error: 0.2096 - rmse: 0.4467 -
mean_absolute_percentage_error: 196.0759
5/5 [=====] - 0s 1ms/step
No Regularizer chosen
-----
Training for fold 10 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2042 -
mean_absolute_error: 0.5712 - mean_squared_error: 1.2042 - rmse: 0.9853 -
mean_absolute_percentage_error: 103.2081
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.1740 -
mean_absolute_error: 0.5604 - mean_squared_error: 1.1740 - rmse: 0.9586 -
mean_absolute_percentage_error: 106.3542
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.1466 -
mean_absolute_error: 0.5522 - mean_squared_error: 1.1466 - rmse: 0.9180 -
mean_absolute_percentage_error: 116.7072
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.1153 -
mean_absolute_error: 0.5424 - mean_squared_error: 1.1153 - rmse: 0.9487 -

```

```

mean_absolute_percentage_error: 124.4525
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.0789 -
mean_absolute_error: 0.5333 - mean_squared_error: 1.0789 - rmse: 0.8679 -
mean_absolute_percentage_error: 141.5459
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.0392 -
mean_absolute_error: 0.5198 - mean_squared_error: 1.0392 - rmse: 0.9171 -
mean_absolute_percentage_error: 149.5470
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.0030 -
mean_absolute_error: 0.5075 - mean_squared_error: 1.0030 - rmse: 0.8774 -
mean_absolute_percentage_error: 165.9102
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 0.9715 -
mean_absolute_error: 0.4997 - mean_squared_error: 0.9715 - rmse: 0.8394 -
mean_absolute_percentage_error: 185.7319
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 0.9341 -
mean_absolute_error: 0.4886 - mean_squared_error: 0.9341 - rmse: 0.7629 -
mean_absolute_percentage_error: 200.6759
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.9089 -
mean_absolute_error: 0.4807 - mean_squared_error: 0.9089 - rmse: 0.7604 -
mean_absolute_percentage_error: 216.2547
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.8843 -
mean_absolute_error: 0.4686 - mean_squared_error: 0.8843 - rmse: 0.7896 -
mean_absolute_percentage_error: 223.2573
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.8677 -
mean_absolute_error: 0.4557 - mean_squared_error: 0.8677 - rmse: 0.8150 -
mean_absolute_percentage_error: 230.2124
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.8516 -
mean_absolute_error: 0.4447 - mean_squared_error: 0.8516 - rmse: 0.8226 -
mean_absolute_percentage_error: 236.0572
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.8384 -
mean_absolute_error: 0.4337 - mean_squared_error: 0.8384 - rmse: 0.7751 -
mean_absolute_percentage_error: 242.0984
Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8270 -
mean_absolute_error: 0.4237 - mean_squared_error: 0.8270 - rmse: 0.7779 -
mean_absolute_percentage_error: 245.1351
Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.8169 -
mean_absolute_error: 0.4135 - mean_squared_error: 0.8169 - rmse: 0.7444 -

```



```

mean_absolute_percentage_error: 245.5833
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.8093 -
mean_absolute_error: 0.4055 - mean_squared_error: 0.8093 - rmse: 0.7081 -
mean_absolute_percentage_error: 245.2417
Epoch 18/50
10/10 [=====] - 0s 4ms/step - loss: 0.8035 -
mean_absolute_error: 0.3960 - mean_squared_error: 0.8035 - rmse: 0.7666 -
mean_absolute_percentage_error: 240.6019
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.7947 -
mean_absolute_error: 0.3883 - mean_squared_error: 0.7947 - rmse: 0.7198 -
mean_absolute_percentage_error: 238.8598
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.7882 -
mean_absolute_error: 0.3852 - mean_squared_error: 0.7882 - rmse: 0.7420 -
mean_absolute_percentage_error: 241.7929
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.7834 -
mean_absolute_error: 0.3817 - mean_squared_error: 0.7834 - rmse: 0.7452 -
mean_absolute_percentage_error: 243.9127
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.7777 -
mean_absolute_error: 0.3770 - mean_squared_error: 0.7777 - rmse: 0.7320 -
mean_absolute_percentage_error: 242.3141
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7715 -
mean_absolute_error: 0.3720 - mean_squared_error: 0.7715 - rmse: 0.7627 -
mean_absolute_percentage_error: 242.2281
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7673 -
mean_absolute_error: 0.3652 - mean_squared_error: 0.7673 - rmse: 0.7586 -
mean_absolute_percentage_error: 238.2545
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7631 -
mean_absolute_error: 0.3583 - mean_squared_error: 0.7631 - rmse: 0.7196 -
mean_absolute_percentage_error: 233.4229
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7591 -
mean_absolute_error: 0.3551 - mean_squared_error: 0.7591 - rmse: 0.7451 -
mean_absolute_percentage_error: 234.3208
Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.7539 -
mean_absolute_error: 0.3522 - mean_squared_error: 0.7539 - rmse: 0.7198 -
mean_absolute_percentage_error: 236.1628
Epoch 28/50
10/10 [=====] - 0s 4ms/step - loss: 0.7504 -
mean_absolute_error: 0.3452 - mean_squared_error: 0.7504 - rmse: 0.6810 -

```

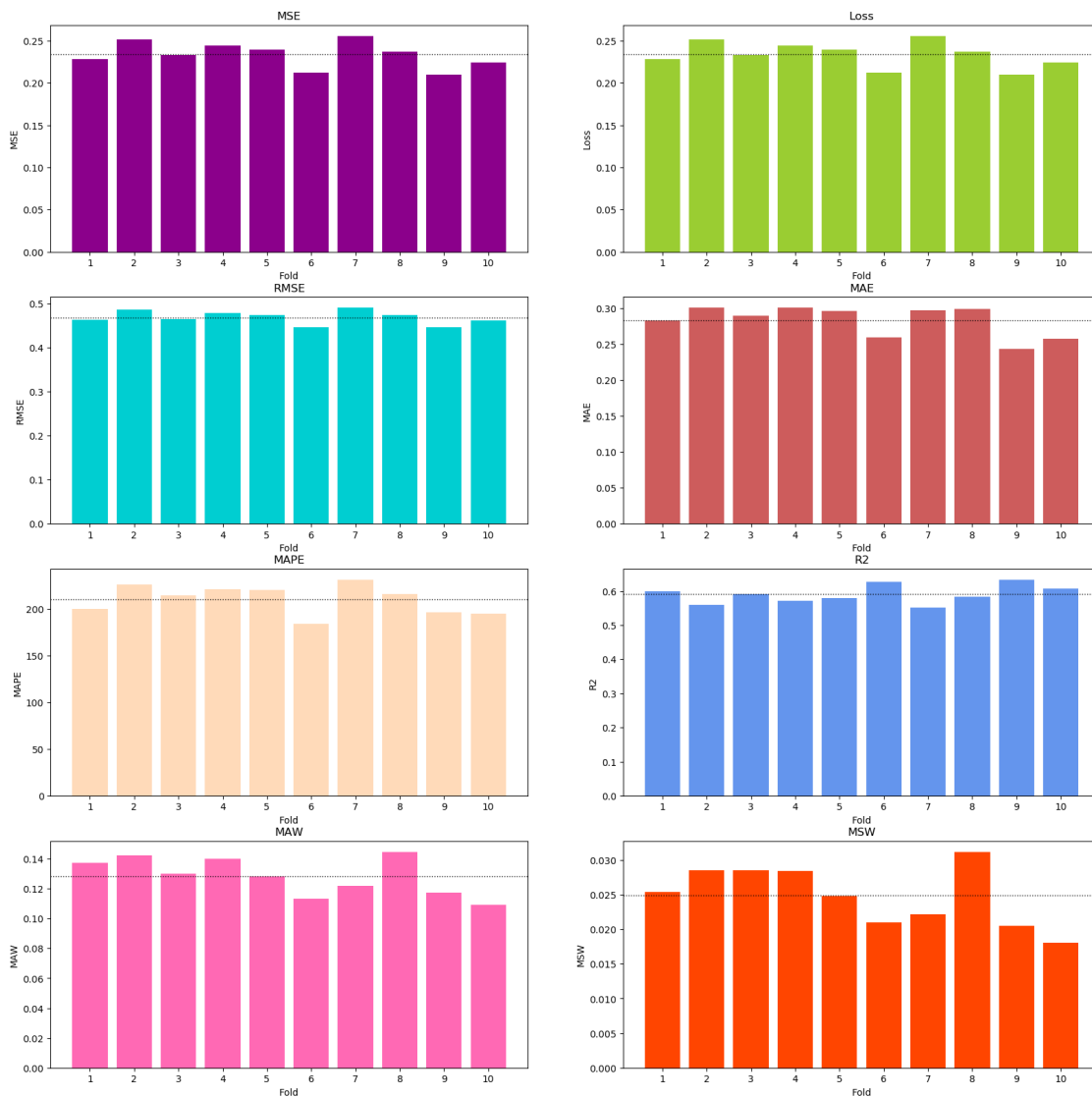
mean_absolute_percentage_error: 231.0654
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7468 -
mean_absolute_error: 0.3412 - mean_squared_error: 0.7468 - rmse: 0.7539 -
mean_absolute_percentage_error: 229.6216
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.7431 -
mean_absolute_error: 0.3383 - mean_squared_error: 0.7431 - rmse: 0.7427 -
mean_absolute_percentage_error: 229.9077
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7407 -
mean_absolute_error: 0.3318 - mean_squared_error: 0.7407 - rmse: 0.7086 -
mean_absolute_percentage_error: 225.2941
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.7367 -
mean_absolute_error: 0.3267 - mean_squared_error: 0.7367 - rmse: 0.6937 -
mean_absolute_percentage_error: 222.3848
Epoch 33/50
10/10 [=====] - 0s 4ms/step - loss: 0.7333 -
mean_absolute_error: 0.3242 - mean_squared_error: 0.7333 - rmse: 0.7195 -
mean_absolute_percentage_error: 222.8058
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7321 -
mean_absolute_error: 0.3217 - mean_squared_error: 0.7321 - rmse: 0.6809 -
mean_absolute_percentage_error: 223.9662
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7284 -
mean_absolute_error: 0.3167 - mean_squared_error: 0.7284 - rmse: 0.7055 -
mean_absolute_percentage_error: 220.0981
Epoch 36/50
10/10 [=====] - 0s 4ms/step - loss: 0.7292 -
mean_absolute_error: 0.3093 - mean_squared_error: 0.7292 - rmse: 0.7204 -
mean_absolute_percentage_error: 213.4531
Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.7231 -
mean_absolute_error: 0.3045 - mean_squared_error: 0.7231 - rmse: 0.6967 -
mean_absolute_percentage_error: 210.0891
Epoch 38/50
10/10 [=====] - 0s 3ms/step - loss: 0.7212 -
mean_absolute_error: 0.3048 - mean_squared_error: 0.7212 - rmse: 0.7289 -
mean_absolute_percentage_error: 213.1081
Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.7189 -
mean_absolute_error: 0.3048 - mean_squared_error: 0.7189 - rmse: 0.6682 -
mean_absolute_percentage_error: 217.0645
Epoch 40/50
10/10 [=====] - 0s 4ms/step - loss: 0.7175 -
mean_absolute_error: 0.3012 - mean_squared_error: 0.7175 - rmse: 0.6657 -

```

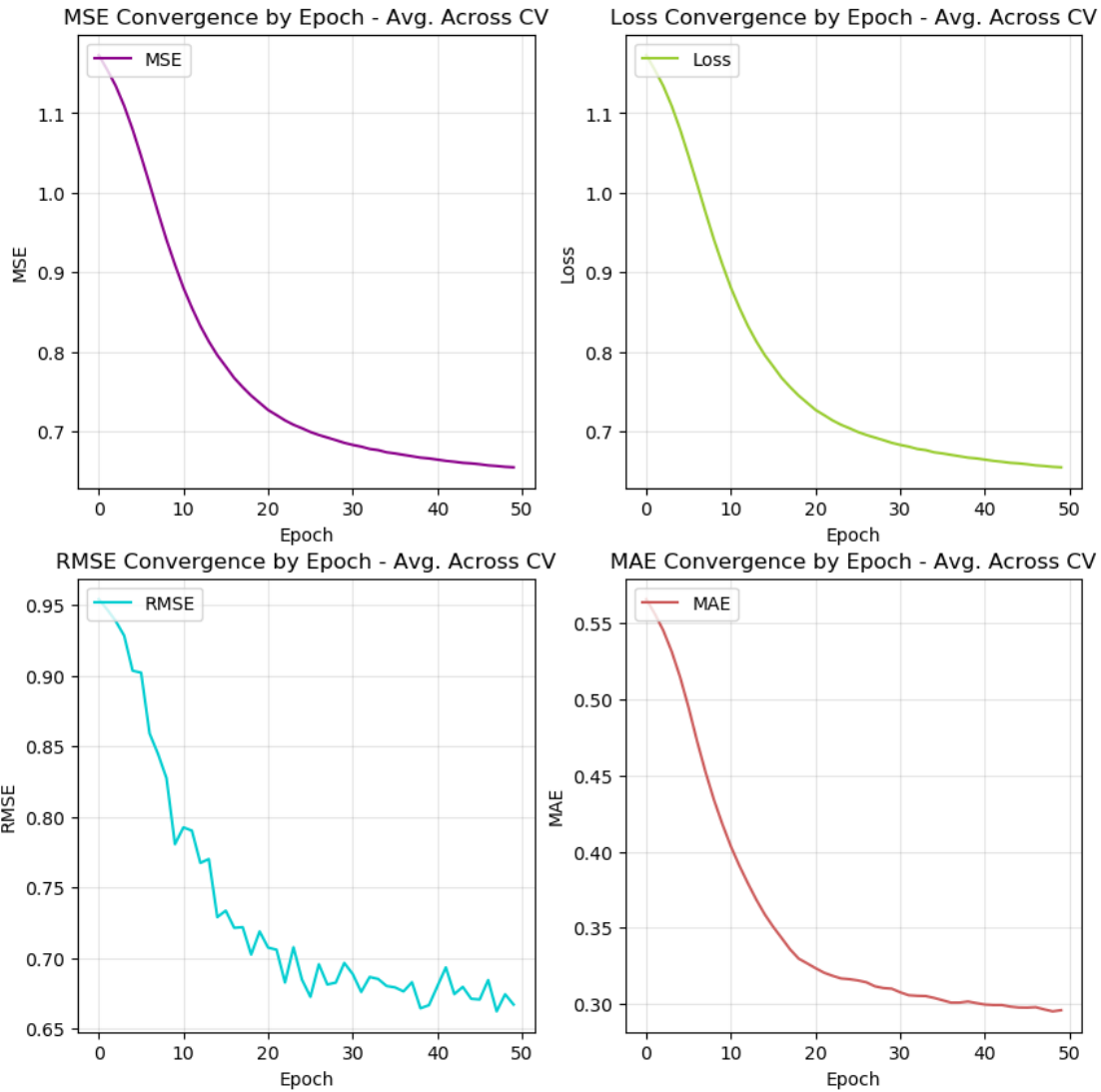
mean_absolute_percentage_error: 213.4936
Epoch 41/50
10/10 [=====] - 0s 4ms/step - loss: 0.7152 -
mean_absolute_error: 0.2966 - mean_squared_error: 0.7152 - rmse: 0.7257 -
mean_absolute_percentage_error: 210.3882
Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.7129 -
mean_absolute_error: 0.2945 - mean_squared_error: 0.7129 - rmse: 0.7132 -
mean_absolute_percentage_error: 210.0183
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.7111 -
mean_absolute_error: 0.2939 - mean_squared_error: 0.7111 - rmse: 0.7278 -
mean_absolute_percentage_error: 210.4201
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7094 -
mean_absolute_error: 0.2915 - mean_squared_error: 0.7094 - rmse: 0.7253 -
mean_absolute_percentage_error: 208.2736
Epoch 45/50
10/10 [=====] - 0s 3ms/step - loss: 0.7095 -
mean_absolute_error: 0.2869 - mean_squared_error: 0.7095 - rmse: 0.6928 -
mean_absolute_percentage_error: 203.7987
Epoch 46/50
10/10 [=====] - 0s 4ms/step - loss: 0.7091 -
mean_absolute_error: 0.2879 - mean_squared_error: 0.7091 - rmse: 0.7205 -
mean_absolute_percentage_error: 205.6318
Epoch 47/50
10/10 [=====] - 0s 5ms/step - loss: 0.7042 -
mean_absolute_error: 0.2867 - mean_squared_error: 0.7042 - rmse: 0.7304 -
mean_absolute_percentage_error: 206.5162
Epoch 48/50
10/10 [=====] - 0s 5ms/step - loss: 0.7022 -
mean_absolute_error: 0.2839 - mean_squared_error: 0.7022 - rmse: 0.7018 -
mean_absolute_percentage_error: 204.1388
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.7024 -
mean_absolute_error: 0.2784 - mean_squared_error: 0.7024 - rmse: 0.6694 -
mean_absolute_percentage_error: 196.0638
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7019 -
mean_absolute_error: 0.2797 - mean_squared_error: 0.7019 - rmse: 0.7074 -
mean_absolute_percentage_error: 198.9708
5/5 [=====] - 0s 2ms/step - loss: 0.2245 -
mean_absolute_error: 0.2582 - mean_squared_error: 0.2245 - rmse: 0.4609 -
mean_absolute_percentage_error: 195.0563
5/5 [=====] - 0s 1ms/step

```

```
[16]: #Graph for Measures
figure_v = graph_metric_by_fold(compendium_v)
plt.show()
```



```
[17]: #Graph for Convergence
figure_v = graph_epoch_convergence(compendium_v)
plt.show()
```



5 L1 Regularization

```
[18]: #Creating the MLP
      compendium_l1 = folds_and_model(x_tr, y_tr, x_ts, y_ts,
                                     7, regularizer = 'L1', input_no = 13,
                                     batch = 32, epochs_no = 50)
```

Regularizer chosen is L1

Training for fold 1 ...

Epoch 1/50

10/10 [=====] - 1s 3ms/step - loss: 1.2430 -

mean_absolute_error: 0.5550 - mean_squared_error: 1.2391 - rmse: 0.9613 -

```

mean_absolute_percentage_error: 96.0361
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 1.2301 -
mean_absolute_error: 0.5451 - mean_squared_error: 1.2262 - rmse: 0.9645 -
mean_absolute_percentage_error: 93.7780
Epoch 3/50
10/10 [=====] - 0s 4ms/step - loss: 1.2152 -
mean_absolute_error: 0.5323 - mean_squared_error: 1.2111 - rmse: 0.8994 -
mean_absolute_percentage_error: 92.1046
Epoch 4/50
10/10 [=====] - 0s 5ms/step - loss: 1.1945 -
mean_absolute_error: 0.5135 - mean_squared_error: 1.1901 - rmse: 0.9813 -
mean_absolute_percentage_error: 90.9202
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1712 -
mean_absolute_error: 0.4918 - mean_squared_error: 1.1664 - rmse: 0.9617 -
mean_absolute_percentage_error: 91.8279
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1455 -
mean_absolute_error: 0.4652 - mean_squared_error: 1.1403 - rmse: 0.9358 -
mean_absolute_percentage_error: 92.5193
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.1161 -
mean_absolute_error: 0.4369 - mean_squared_error: 1.1105 - rmse: 0.8141 -
mean_absolute_percentage_error: 93.1730
Epoch 8/50
10/10 [=====] - 0s 9ms/step - loss: 1.0887 -
mean_absolute_error: 0.4145 - mean_squared_error: 1.0827 - rmse: 0.8745 -
mean_absolute_percentage_error: 95.5474
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 1.0599 -
mean_absolute_error: 0.3988 - mean_squared_error: 1.0535 - rmse: 0.8689 -
mean_absolute_percentage_error: 102.4204
Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 1.0362 -
mean_absolute_error: 0.3864 - mean_squared_error: 1.0295 - rmse: 0.8715 -
mean_absolute_percentage_error: 112.4765
Epoch 11/50
10/10 [=====] - 0s 4ms/step - loss: 1.0052 -
mean_absolute_error: 0.3724 - mean_squared_error: 0.9983 - rmse: 0.8505 -
mean_absolute_percentage_error: 120.7041
Epoch 12/50
10/10 [=====] - 0s 4ms/step - loss: 0.9792 -
mean_absolute_error: 0.3604 - mean_squared_error: 0.9719 - rmse: 0.8480 -
mean_absolute_percentage_error: 133.6133
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.9506 -
mean_absolute_error: 0.3484 - mean_squared_error: 0.9431 - rmse: 0.8018 -

```

```

mean_absolute_percentage_error: 144.0058
Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.9278 -
mean_absolute_error: 0.3390 - mean_squared_error: 0.9199 - rmse: 0.8233 -
mean_absolute_percentage_error: 153.4421
Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.9022 -
mean_absolute_error: 0.3310 - mean_squared_error: 0.8940 - rmse: 0.8024 -
mean_absolute_percentage_error: 163.9084
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8818 -
mean_absolute_error: 0.3270 - mean_squared_error: 0.8734 - rmse: 0.7249 -
mean_absolute_percentage_error: 178.9721
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.8574 -
mean_absolute_error: 0.3193 - mean_squared_error: 0.8487 - rmse: 0.7432 -
mean_absolute_percentage_error: 184.6273
Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.8400 -
mean_absolute_error: 0.3145 - mean_squared_error: 0.8310 - rmse: 0.7417 -
mean_absolute_percentage_error: 190.1506
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8264 -
mean_absolute_error: 0.3098 - mean_squared_error: 0.8172 - rmse: 0.7416 -
mean_absolute_percentage_error: 195.3367
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.8143 -
mean_absolute_error: 0.3112 - mean_squared_error: 0.8049 - rmse: 0.7092 -
mean_absolute_percentage_error: 204.9833
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.8023 -
mean_absolute_error: 0.3128 - mean_squared_error: 0.7928 - rmse: 0.7209 -
mean_absolute_percentage_error: 211.7037
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7938 -
mean_absolute_error: 0.3143 - mean_squared_error: 0.7841 - rmse: 0.6535 -
mean_absolute_percentage_error: 218.9682
Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.7820 -
mean_absolute_error: 0.3123 - mean_squared_error: 0.7721 - rmse: 0.7503 -
mean_absolute_percentage_error: 219.2949
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7755 -
mean_absolute_error: 0.3121 - mean_squared_error: 0.7656 - rmse: 0.6939 -
mean_absolute_percentage_error: 221.5405
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7711 -
mean_absolute_error: 0.3147 - mean_squared_error: 0.7610 - rmse: 0.6701 -

```

```

mean_absolute_percentage_error: 228.1238
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7647 -
mean_absolute_error: 0.3155 - mean_squared_error: 0.7546 - rmse: 0.7260 -
mean_absolute_percentage_error: 232.5349
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7611 -
mean_absolute_error: 0.3165 - mean_squared_error: 0.7509 - rmse: 0.6888 -
mean_absolute_percentage_error: 236.1286
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7571 -
mean_absolute_error: 0.3159 - mean_squared_error: 0.7469 - rmse: 0.7246 -
mean_absolute_percentage_error: 238.0054
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7542 -
mean_absolute_error: 0.3141 - mean_squared_error: 0.7440 - rmse: 0.7535 -
mean_absolute_percentage_error: 237.7852
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7520 -
mean_absolute_error: 0.3141 - mean_squared_error: 0.7416 - rmse: 0.7061 -
mean_absolute_percentage_error: 238.2608
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7498 -
mean_absolute_error: 0.3148 - mean_squared_error: 0.7394 - rmse: 0.7493 -
mean_absolute_percentage_error: 239.7704
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7490 -
mean_absolute_error: 0.3159 - mean_squared_error: 0.7386 - rmse: 0.7097 -
mean_absolute_percentage_error: 242.4917
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7467 -
mean_absolute_error: 0.3178 - mean_squared_error: 0.7363 - rmse: 0.7291 -
mean_absolute_percentage_error: 243.6865
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7446 -
mean_absolute_error: 0.3173 - mean_squared_error: 0.7341 - rmse: 0.7298 -
mean_absolute_percentage_error: 243.8385
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7434 -
mean_absolute_error: 0.3170 - mean_squared_error: 0.7330 - rmse: 0.7163 -
mean_absolute_percentage_error: 243.6397
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7440 -
mean_absolute_error: 0.3189 - mean_squared_error: 0.7335 - rmse: 0.6675 -
mean_absolute_percentage_error: 244.6081
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7418 -
mean_absolute_error: 0.3173 - mean_squared_error: 0.7314 - rmse: 0.6744 -

```



```

mean_absolute_percentage_error: 242.7250
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7406 -
mean_absolute_error: 0.3164 - mean_squared_error: 0.7302 - rmse: 0.6913 -
mean_absolute_percentage_error: 241.8898
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7383 -
mean_absolute_error: 0.3159 - mean_squared_error: 0.7279 - rmse: 0.7218 -
mean_absolute_percentage_error: 241.6201
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7377 -
mean_absolute_error: 0.3148 - mean_squared_error: 0.7273 - rmse: 0.7449 -
mean_absolute_percentage_error: 239.1080
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7365 -
mean_absolute_error: 0.3136 - mean_squared_error: 0.7262 - rmse: 0.6745 -
mean_absolute_percentage_error: 237.6569
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7363 -
mean_absolute_error: 0.3123 - mean_squared_error: 0.7260 - rmse: 0.7225 -
mean_absolute_percentage_error: 235.4028
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7353 -
mean_absolute_error: 0.3135 - mean_squared_error: 0.7250 - rmse: 0.6895 -
mean_absolute_percentage_error: 238.0061
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.7341 -
mean_absolute_error: 0.3149 - mean_squared_error: 0.7238 - rmse: 0.7182 -
mean_absolute_percentage_error: 238.8904
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7333 -
mean_absolute_error: 0.3150 - mean_squared_error: 0.7229 - rmse: 0.7138 -
mean_absolute_percentage_error: 239.5631
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7322 -
mean_absolute_error: 0.3155 - mean_squared_error: 0.7219 - rmse: 0.6945 -
mean_absolute_percentage_error: 239.7790
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.7309 -
mean_absolute_error: 0.3147 - mean_squared_error: 0.7206 - rmse: 0.6580 -
mean_absolute_percentage_error: 238.3379
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7301 -
mean_absolute_error: 0.3136 - mean_squared_error: 0.7198 - rmse: 0.7256 -
mean_absolute_percentage_error: 235.6792
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.7293 -
mean_absolute_error: 0.3124 - mean_squared_error: 0.7190 - rmse: 0.7118 -

```

```

mean_absolute_percentage_error: 233.3624
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7284 -
mean_absolute_error: 0.3133 - mean_squared_error: 0.7181 - rmse: 0.6674 -
mean_absolute_percentage_error: 233.9937
5/5 [=====] - 0s 2ms/step - loss: 0.2532 -
mean_absolute_error: 0.2978 - mean_squared_error: 0.2429 - rmse: 0.4770 -
mean_absolute_percentage_error: 226.4755
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L1
-----
Training for fold 2 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.0948 -
mean_absolute_error: 0.5662 - mean_squared_error: 1.0908 - rmse: 0.9357 -
mean_absolute_percentage_error: 99.1504
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.0865 -
mean_absolute_error: 0.5596 - mean_squared_error: 1.0826 - rmse: 0.9194 -
mean_absolute_percentage_error: 97.8551
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.0767 -
mean_absolute_error: 0.5529 - mean_squared_error: 1.0728 - rmse: 0.8825 -
mean_absolute_percentage_error: 96.2076
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.0635 -
mean_absolute_error: 0.5427 - mean_squared_error: 1.0596 - rmse: 0.8876 -
mean_absolute_percentage_error: 94.9669
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.0450 -
mean_absolute_error: 0.5274 - mean_squared_error: 1.0408 - rmse: 0.8829 -
mean_absolute_percentage_error: 91.7801
Epoch 6/50
10/10 [=====] - 0s 2ms/step - loss: 1.0226 -
mean_absolute_error: 0.5079 - mean_squared_error: 1.0180 - rmse: 0.8917 -
mean_absolute_percentage_error: 90.4575
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 0.9944 -
mean_absolute_error: 0.4809 - mean_squared_error: 0.9893 - rmse: 0.8736 -
mean_absolute_percentage_error: 89.6711
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 0.9637 -
mean_absolute_error: 0.4502 - mean_squared_error: 0.9580 - rmse: 0.8332 -
mean_absolute_percentage_error: 89.4697
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 0.9316 -
mean_absolute_error: 0.4247 - mean_squared_error: 0.9255 - rmse: 0.7927 -
mean_absolute_percentage_error: 92.7101

```

Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.9045 -
mean_absolute_error: 0.4052 - mean_squared_error: 0.8979 - rmse: 0.8236 -
mean_absolute_percentage_error: 96.9444

Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.8731 -
mean_absolute_error: 0.3873 - mean_squared_error: 0.8661 - rmse: 0.7957 -
mean_absolute_percentage_error: 104.1297

Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.8443 -
mean_absolute_error: 0.3731 - mean_squared_error: 0.8370 - rmse: 0.7907 -
mean_absolute_percentage_error: 112.0199

Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.8161 -
mean_absolute_error: 0.3582 - mean_squared_error: 0.8086 - rmse: 0.7272 -
mean_absolute_percentage_error: 122.1325

Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.7869 -
mean_absolute_error: 0.3411 - mean_squared_error: 0.7791 - rmse: 0.7234 -
mean_absolute_percentage_error: 129.4411

Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.7649 -
mean_absolute_error: 0.3287 - mean_squared_error: 0.7568 - rmse: 0.6937 -
mean_absolute_percentage_error: 136.6234

Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.7403 -
mean_absolute_error: 0.3194 - mean_squared_error: 0.7320 - rmse: 0.7287 -
mean_absolute_percentage_error: 146.2856

Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.7215 -
mean_absolute_error: 0.3126 - mean_squared_error: 0.7130 - rmse: 0.7189 -
mean_absolute_percentage_error: 152.3798

Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.7042 -
mean_absolute_error: 0.3067 - mean_squared_error: 0.6955 - rmse: 0.7033 -
mean_absolute_percentage_error: 161.8675

Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.6894 -
mean_absolute_error: 0.3024 - mean_squared_error: 0.6805 - rmse: 0.6929 -
mean_absolute_percentage_error: 169.6124

Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.6754 -
mean_absolute_error: 0.2985 - mean_squared_error: 0.6663 - rmse: 0.6952 -
mean_absolute_percentage_error: 177.2808

Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.6636 -
mean_absolute_error: 0.2969 - mean_squared_error: 0.6544 - rmse: 0.6505 -
mean_absolute_percentage_error: 183.5923

Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.6524 -
mean_absolute_error: 0.2943 - mean_squared_error: 0.6431 - rmse: 0.6718 -
mean_absolute_percentage_error: 185.1083

Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.6445 -
mean_absolute_error: 0.2918 - mean_squared_error: 0.6352 - rmse: 0.6630 -
mean_absolute_percentage_error: 188.6370

Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.6361 -
mean_absolute_error: 0.2912 - mean_squared_error: 0.6267 - rmse: 0.6759 -
mean_absolute_percentage_error: 191.4488

Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.6313 -
mean_absolute_error: 0.2912 - mean_squared_error: 0.6218 - rmse: 0.6219 -
mean_absolute_percentage_error: 195.5820

Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.6260 -
mean_absolute_error: 0.2918 - mean_squared_error: 0.6164 - rmse: 0.6611 -
mean_absolute_percentage_error: 200.5738

Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.6218 -
mean_absolute_error: 0.2904 - mean_squared_error: 0.6122 - rmse: 0.6708 -
mean_absolute_percentage_error: 199.1935

Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.6187 -
mean_absolute_error: 0.2906 - mean_squared_error: 0.6090 - rmse: 0.6555 -
mean_absolute_percentage_error: 201.4243

Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.6143 -
mean_absolute_error: 0.2908 - mean_squared_error: 0.6046 - rmse: 0.6481 -
mean_absolute_percentage_error: 203.2466

Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.6122 -
mean_absolute_error: 0.2900 - mean_squared_error: 0.6025 - rmse: 0.6359 -
mean_absolute_percentage_error: 203.4338

Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.6094 -
mean_absolute_error: 0.2897 - mean_squared_error: 0.5998 - rmse: 0.6249 -
mean_absolute_percentage_error: 203.7848

Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.6072 -
mean_absolute_error: 0.2894 - mean_squared_error: 0.5975 - rmse: 0.6470 -
mean_absolute_percentage_error: 203.9508

Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.6051 -
mean_absolute_error: 0.2890 - mean_squared_error: 0.5954 - rmse: 0.6498 -
mean_absolute_percentage_error: 204.0736

Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.6047 -
mean_absolute_error: 0.2891 - mean_squared_error: 0.5950 - rmse: 0.6071 -
mean_absolute_percentage_error: 204.2829

Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.6015 -
mean_absolute_error: 0.2881 - mean_squared_error: 0.5918 - rmse: 0.6453 -
mean_absolute_percentage_error: 204.4138

Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.6003 -
mean_absolute_error: 0.2866 - mean_squared_error: 0.5906 - rmse: 0.6038 -
mean_absolute_percentage_error: 202.8871

Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.5988 -
mean_absolute_error: 0.2855 - mean_squared_error: 0.5891 - rmse: 0.6416 -
mean_absolute_percentage_error: 202.1849

Epoch 38/50
10/10 [=====] - 0s 3ms/step - loss: 0.5980 -
mean_absolute_error: 0.2865 - mean_squared_error: 0.5883 - rmse: 0.6357 -
mean_absolute_percentage_error: 203.6600

Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.5960 -
mean_absolute_error: 0.2875 - mean_squared_error: 0.5863 - rmse: 0.6334 -
mean_absolute_percentage_error: 206.3058

Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.5956 -
mean_absolute_error: 0.2858 - mean_squared_error: 0.5859 - rmse: 0.6215 -
mean_absolute_percentage_error: 204.9695

Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.5939 -
mean_absolute_error: 0.2853 - mean_squared_error: 0.5843 - rmse: 0.6301 -
mean_absolute_percentage_error: 204.8072

Epoch 42/50
10/10 [=====] - 0s 4ms/step - loss: 0.5941 -
mean_absolute_error: 0.2848 - mean_squared_error: 0.5845 - rmse: 0.5956 -
mean_absolute_percentage_error: 204.2221

Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.5922 -
mean_absolute_error: 0.2857 - mean_squared_error: 0.5826 - rmse: 0.6524 -
mean_absolute_percentage_error: 206.1131

Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.5909 -
mean_absolute_error: 0.2858 - mean_squared_error: 0.5813 - rmse: 0.6429 -
mean_absolute_percentage_error: 206.0283

Epoch 45/50
10/10 [=====] - 0s 4ms/step - loss: 0.5920 -
mean_absolute_error: 0.2879 - mean_squared_error: 0.5823 - rmse: 0.5918 -
mean_absolute_percentage_error: 208.0307

```

Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.5893 -
mean_absolute_error: 0.2871 - mean_squared_error: 0.5797 - rmse: 0.5779 -
mean_absolute_percentage_error: 206.4371
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.5886 -
mean_absolute_error: 0.2869 - mean_squared_error: 0.5790 - rmse: 0.6161 -
mean_absolute_percentage_error: 206.4663
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.5876 -
mean_absolute_error: 0.2853 - mean_squared_error: 0.5780 - rmse: 0.6479 -
mean_absolute_percentage_error: 204.6139
Epoch 49/50
10/10 [=====] - 0s 4ms/step - loss: 0.5875 -
mean_absolute_error: 0.2856 - mean_squared_error: 0.5779 - rmse: 0.6170 -
mean_absolute_percentage_error: 205.7591
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.5854 -
mean_absolute_error: 0.2844 - mean_squared_error: 0.5758 - rmse: 0.6199 -
mean_absolute_percentage_error: 204.6125
5/5 [=====] - 0s 2ms/step - loss: 0.2451 -
mean_absolute_error: 0.2915 - mean_squared_error: 0.2355 - rmse: 0.4684 -
mean_absolute_percentage_error: 206.4322
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L1
-----
Training for fold 3 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2907 -
mean_absolute_error: 0.5901 - mean_squared_error: 1.2874 - rmse: 1.0043 -
mean_absolute_percentage_error: 103.4918
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2634 -
mean_absolute_error: 0.5775 - mean_squared_error: 1.2601 - rmse: 0.9947 -
mean_absolute_percentage_error: 99.7111
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.2381 -
mean_absolute_error: 0.5658 - mean_squared_error: 1.2346 - rmse: 1.0362 -
mean_absolute_percentage_error: 102.0878
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.2031 -
mean_absolute_error: 0.5523 - mean_squared_error: 1.1994 - rmse: 0.9719 -
mean_absolute_percentage_error: 108.5764
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.1730 -
mean_absolute_error: 0.5376 - mean_squared_error: 1.1690 - rmse: 0.9330 -
mean_absolute_percentage_error: 117.8255
Epoch 6/50

```

10/10 [=====] - 0s 2ms/step - loss: 1.1336 -
mean_absolute_error: 0.5190 - mean_squared_error: 1.1291 - rmse: 0.9096 -
mean_absolute_percentage_error: 126.1835
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.0889 -
mean_absolute_error: 0.4968 - mean_squared_error: 1.0839 - rmse: 0.8596 -
mean_absolute_percentage_error: 132.4101
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0465 -
mean_absolute_error: 0.4722 - mean_squared_error: 1.0409 - rmse: 0.8540 -
mean_absolute_percentage_error: 139.0526
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0114 -
mean_absolute_error: 0.4484 - mean_squared_error: 1.0053 - rmse: 0.8156 -
mean_absolute_percentage_error: 149.3329
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.9792 -
mean_absolute_error: 0.4313 - mean_squared_error: 0.9725 - rmse: 0.8032 -
mean_absolute_percentage_error: 167.0531
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9473 -
mean_absolute_error: 0.4200 - mean_squared_error: 0.9402 - rmse: 0.7966 -
mean_absolute_percentage_error: 178.1562
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.9244 -
mean_absolute_error: 0.4109 - mean_squared_error: 0.9170 - rmse: 0.8262 -
mean_absolute_percentage_error: 193.2577
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.9032 -
mean_absolute_error: 0.4041 - mean_squared_error: 0.8955 - rmse: 0.8408 -
mean_absolute_percentage_error: 201.1436
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.8879 -
mean_absolute_error: 0.4013 - mean_squared_error: 0.8800 - rmse: 0.8348 -
mean_absolute_percentage_error: 213.8890
Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8761 -
mean_absolute_error: 0.3991 - mean_squared_error: 0.8680 - rmse: 0.8258 -
mean_absolute_percentage_error: 225.2936
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8625 -
mean_absolute_error: 0.3955 - mean_squared_error: 0.8543 - rmse: 0.8007 -
mean_absolute_percentage_error: 234.6463
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8509 -
mean_absolute_error: 0.3874 - mean_squared_error: 0.8425 - rmse: 0.7626 -
mean_absolute_percentage_error: 236.1897
Epoch 18/50

10/10 [=====] - 0s 2ms/step - loss: 0.8422 -
mean_absolute_error: 0.3793 - mean_squared_error: 0.8338 - rmse: 0.6814 -
mean_absolute_percentage_error: 235.7996
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.8342 -
mean_absolute_error: 0.3735 - mean_squared_error: 0.8256 - rmse: 0.7815 -
mean_absolute_percentage_error: 237.2102
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.8253 -
mean_absolute_error: 0.3681 - mean_squared_error: 0.8167 - rmse: 0.7783 -
mean_absolute_percentage_error: 241.3884
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.8155 -
mean_absolute_error: 0.3600 - mean_squared_error: 0.8069 - rmse: 0.7723 -
mean_absolute_percentage_error: 239.7043
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.8073 -
mean_absolute_error: 0.3529 - mean_squared_error: 0.7986 - rmse: 0.7794 -
mean_absolute_percentage_error: 239.1331
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.8012 -
mean_absolute_error: 0.3463 - mean_squared_error: 0.7924 - rmse: 0.7545 -
mean_absolute_percentage_error: 234.0750
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.7902 -
mean_absolute_error: 0.3369 - mean_squared_error: 0.7814 - rmse: 0.7356 -
mean_absolute_percentage_error: 229.6174
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7841 -
mean_absolute_error: 0.3351 - mean_squared_error: 0.7753 - rmse: 0.7038 -
mean_absolute_percentage_error: 231.6356
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7746 -
mean_absolute_error: 0.3317 - mean_squared_error: 0.7657 - rmse: 0.7687 -
mean_absolute_percentage_error: 231.7588
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7688 -
mean_absolute_error: 0.3273 - mean_squared_error: 0.7598 - rmse: 0.7348 -
mean_absolute_percentage_error: 230.2560
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7647 -
mean_absolute_error: 0.3240 - mean_squared_error: 0.7557 - rmse: 0.7315 -
mean_absolute_percentage_error: 228.8864
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7590 -
mean_absolute_error: 0.3225 - mean_squared_error: 0.7498 - rmse: 0.7372 -
mean_absolute_percentage_error: 228.0607
Epoch 30/50

10/10 [=====] - 0s 3ms/step - loss: 0.7550 -
mean_absolute_error: 0.3229 - mean_squared_error: 0.7458 - rmse: 0.7040 -
mean_absolute_percentage_error: 233.0604
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7514 -
mean_absolute_error: 0.3212 - mean_squared_error: 0.7420 - rmse: 0.7413 -
mean_absolute_percentage_error: 233.4447
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7497 -
mean_absolute_error: 0.3222 - mean_squared_error: 0.7404 - rmse: 0.7391 -
mean_absolute_percentage_error: 236.8472
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7461 -
mean_absolute_error: 0.3202 - mean_squared_error: 0.7367 - rmse: 0.7201 -
mean_absolute_percentage_error: 235.3596
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7432 -
mean_absolute_error: 0.3184 - mean_squared_error: 0.7338 - rmse: 0.7208 -
mean_absolute_percentage_error: 233.9397
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7418 -
mean_absolute_error: 0.3177 - mean_squared_error: 0.7323 - rmse: 0.7024 -
mean_absolute_percentage_error: 233.3375
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7391 -
mean_absolute_error: 0.3148 - mean_squared_error: 0.7296 - rmse: 0.7308 -
mean_absolute_percentage_error: 230.0539
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7372 -
mean_absolute_error: 0.3130 - mean_squared_error: 0.7277 - rmse: 0.7127 -
mean_absolute_percentage_error: 228.6058
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7357 -
mean_absolute_error: 0.3129 - mean_squared_error: 0.7262 - rmse: 0.7007 -
mean_absolute_percentage_error: 228.7715
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7340 -
mean_absolute_error: 0.3118 - mean_squared_error: 0.7245 - rmse: 0.6933 -
mean_absolute_percentage_error: 227.9052
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.7323 -
mean_absolute_error: 0.3097 - mean_squared_error: 0.7227 - rmse: 0.7318 -
mean_absolute_percentage_error: 225.3242
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7309 -
mean_absolute_error: 0.3108 - mean_squared_error: 0.7213 - rmse: 0.7175 -
mean_absolute_percentage_error: 227.1164
Epoch 42/50

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10/10 [=====] - 0s 2ms/step - loss: 0.7304 -
mean_absolute_error: 0.3081 - mean_squared_error: 0.7208 - rmse: 0.7018 -
mean_absolute_percentage_error: 221.6113
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7278 -
mean_absolute_error: 0.3074 - mean_squared_error: 0.7182 - rmse: 0.7285 -
mean_absolute_percentage_error: 221.7102
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7261 -
mean_absolute_error: 0.3080 - mean_squared_error: 0.7164 - rmse: 0.7236 -
mean_absolute_percentage_error: 222.7940
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7277 -
mean_absolute_error: 0.3106 - mean_squared_error: 0.7180 - rmse: 0.6472 -
mean_absolute_percentage_error: 226.5866
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7236 -
mean_absolute_error: 0.3089 - mean_squared_error: 0.7139 - rmse: 0.7275 -
mean_absolute_percentage_error: 224.1421
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.7227 -
mean_absolute_error: 0.3089 - mean_squared_error: 0.7130 - rmse: 0.7158 -
mean_absolute_percentage_error: 222.3271
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.7245 -
mean_absolute_error: 0.3058 - mean_squared_error: 0.7148 - rmse: 0.6867 -
mean_absolute_percentage_error: 217.3651
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.7208 -
mean_absolute_error: 0.3031 - mean_squared_error: 0.7111 - rmse: 0.6804 -
mean_absolute_percentage_error: 213.8653
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7189 -
mean_absolute_error: 0.3064 - mean_squared_error: 0.7092 - rmse: 0.6999 -
mean_absolute_percentage_error: 218.5170
5/5 [=====] - 0s 2ms/step - loss: 0.2480 -
mean_absolute_error: 0.2826 - mean_squared_error: 0.2383 - rmse: 0.4733 -
mean_absolute_percentage_error: 215.5358
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L1
-----
Training for fold 4 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 0.9782 -
mean_absolute_error: 0.5400 - mean_squared_error: 0.9745 - rmse: 0.8776 -
mean_absolute_percentage_error: 109.8171
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 0.9569 -

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mean_absolute_error: 0.5321 - mean_squared_error: 0.9532 - rmse: 0.8134 -
mean_absolute_percentage_error: 114.2247
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 0.9347 -
mean_absolute_error: 0.5251 - mean_squared_error: 0.9309 - rmse: 0.8347 -
mean_absolute_percentage_error: 120.3619
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 0.9093 -
mean_absolute_error: 0.5172 - mean_squared_error: 0.9053 - rmse: 0.8181 -
mean_absolute_percentage_error: 127.2383
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 0.8840 -
mean_absolute_error: 0.5088 - mean_squared_error: 0.8798 - rmse: 0.7836 -
mean_absolute_percentage_error: 138.4232
Epoch 6/50
10/10 [=====] - 0s 2ms/step - loss: 0.8609 -
mean_absolute_error: 0.5014 - mean_squared_error: 0.8563 - rmse: 0.8135 -
mean_absolute_percentage_error: 151.3094
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 0.8327 -
mean_absolute_error: 0.4930 - mean_squared_error: 0.8277 - rmse: 0.7923 -
mean_absolute_percentage_error: 162.1788
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 0.8050 -
mean_absolute_error: 0.4850 - mean_squared_error: 0.7997 - rmse: 0.7741 -
mean_absolute_percentage_error: 175.2503
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 0.7809 -
mean_absolute_error: 0.4791 - mean_squared_error: 0.7752 - rmse: 0.7479 -
mean_absolute_percentage_error: 184.3576
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.7633 -
mean_absolute_error: 0.4756 - mean_squared_error: 0.7572 - rmse: 0.7552 -
mean_absolute_percentage_error: 198.0667
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.7453 -
mean_absolute_error: 0.4711 - mean_squared_error: 0.7390 - rmse: 0.7534 -
mean_absolute_percentage_error: 208.1722
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.7316 -
mean_absolute_error: 0.4695 - mean_squared_error: 0.7250 - rmse: 0.7326 -
mean_absolute_percentage_error: 220.1160
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.7166 -
mean_absolute_error: 0.4624 - mean_squared_error: 0.7099 - rmse: 0.7311 -
mean_absolute_percentage_error: 221.8604
Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.7064 -

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mean_absolute_error: 0.4567 - mean_squared_error: 0.6995 - rmse: 0.7172 -
mean_absolute_percentage_error: 223.5040
Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.6949 -
mean_absolute_error: 0.4491 - mean_squared_error: 0.6879 - rmse: 0.6995 -
mean_absolute_percentage_error: 224.2233
Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.6850 -
mean_absolute_error: 0.4404 - mean_squared_error: 0.6780 - rmse: 0.7093 -
mean_absolute_percentage_error: 222.1312
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.6760 -
mean_absolute_error: 0.4318 - mean_squared_error: 0.6688 - rmse: 0.6951 -
mean_absolute_percentage_error: 219.2010
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.6671 -
mean_absolute_error: 0.4240 - mean_squared_error: 0.6599 - rmse: 0.6999 -
mean_absolute_percentage_error: 216.2472
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.6589 -
mean_absolute_error: 0.4156 - mean_squared_error: 0.6517 - rmse: 0.6765 -
mean_absolute_percentage_error: 213.2622
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.6512 -
mean_absolute_error: 0.4093 - mean_squared_error: 0.6439 - rmse: 0.6558 -
mean_absolute_percentage_error: 212.4976
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.6445 -
mean_absolute_error: 0.4025 - mean_squared_error: 0.6371 - rmse: 0.6737 -
mean_absolute_percentage_error: 209.7632
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.6378 -
mean_absolute_error: 0.3951 - mean_squared_error: 0.6304 - rmse: 0.6540 -
mean_absolute_percentage_error: 207.5380
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.6321 -
mean_absolute_error: 0.3860 - mean_squared_error: 0.6248 - rmse: 0.6639 -
mean_absolute_percentage_error: 201.3712
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.6261 -
mean_absolute_error: 0.3799 - mean_squared_error: 0.6187 - rmse: 0.6137 -
mean_absolute_percentage_error: 198.7560
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.6212 -
mean_absolute_error: 0.3761 - mean_squared_error: 0.6137 - rmse: 0.6436 -
mean_absolute_percentage_error: 200.3702
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.6154 -

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mean_absolute_error: 0.3716 - mean_squared_error: 0.6079 - rmse: 0.6600 -
mean_absolute_percentage_error: 198.6387
Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.6113 -
mean_absolute_error: 0.3660 - mean_squared_error: 0.6037 - rmse: 0.6188 -
mean_absolute_percentage_error: 196.3991
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.6065 -
mean_absolute_error: 0.3621 - mean_squared_error: 0.5988 - rmse: 0.6360 -
mean_absolute_percentage_error: 196.4097
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.6029 -
mean_absolute_error: 0.3574 - mean_squared_error: 0.5952 - rmse: 0.6165 -
mean_absolute_percentage_error: 194.3438
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.5986 -
mean_absolute_error: 0.3514 - mean_squared_error: 0.5908 - rmse: 0.6399 -
mean_absolute_percentage_error: 191.1693
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.5953 -
mean_absolute_error: 0.3428 - mean_squared_error: 0.5875 - rmse: 0.6238 -
mean_absolute_percentage_error: 185.9637
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.5930 -
mean_absolute_error: 0.3383 - mean_squared_error: 0.5852 - rmse: 0.5828 -
mean_absolute_percentage_error: 183.0518
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.5895 -
mean_absolute_error: 0.3337 - mean_squared_error: 0.5817 - rmse: 0.6279 -
mean_absolute_percentage_error: 180.5674
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.5859 -
mean_absolute_error: 0.3275 - mean_squared_error: 0.5780 - rmse: 0.6311 -
mean_absolute_percentage_error: 176.1209
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.5847 -
mean_absolute_error: 0.3223 - mean_squared_error: 0.5768 - rmse: 0.6153 -
mean_absolute_percentage_error: 173.6232
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.5836 -
mean_absolute_error: 0.3228 - mean_squared_error: 0.5756 - rmse: 0.6321 -
mean_absolute_percentage_error: 174.8764
Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.5781 -
mean_absolute_error: 0.3201 - mean_squared_error: 0.5700 - rmse: 0.6236 -
mean_absolute_percentage_error: 177.1577
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.5755 -

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mean_absolute_error: 0.3163 - mean_squared_error: 0.5674 - rmse: 0.6251 -
mean_absolute_percentage_error: 175.9267
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.5749 -
mean_absolute_error: 0.3097 - mean_squared_error: 0.5669 - rmse: 0.5797 -
mean_absolute_percentage_error: 169.6631
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.5708 -
mean_absolute_error: 0.3035 - mean_squared_error: 0.5628 - rmse: 0.5967 -
mean_absolute_percentage_error: 166.5429
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.5693 -
mean_absolute_error: 0.3004 - mean_squared_error: 0.5612 - rmse: 0.5899 -
mean_absolute_percentage_error: 165.9343
Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.5671 -
mean_absolute_error: 0.2971 - mean_squared_error: 0.5590 - rmse: 0.5823 -
mean_absolute_percentage_error: 164.9885
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.5651 -
mean_absolute_error: 0.2955 - mean_squared_error: 0.5569 - rmse: 0.5922 -
mean_absolute_percentage_error: 165.7490
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.5638 -
mean_absolute_error: 0.2933 - mean_squared_error: 0.5555 - rmse: 0.5683 -
mean_absolute_percentage_error: 166.1821
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.5621 -
mean_absolute_error: 0.2910 - mean_squared_error: 0.5538 - rmse: 0.5815 -
mean_absolute_percentage_error: 166.2089
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.5629 -
mean_absolute_error: 0.2935 - mean_squared_error: 0.5545 - rmse: 0.5572 -
mean_absolute_percentage_error: 170.1899
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.5592 -
mean_absolute_error: 0.2896 - mean_squared_error: 0.5508 - rmse: 0.5935 -
mean_absolute_percentage_error: 168.9572
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.5572 -
mean_absolute_error: 0.2832 - mean_squared_error: 0.5488 - rmse: 0.5847 -
mean_absolute_percentage_error: 164.9189
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.5563 -
mean_absolute_error: 0.2796 - mean_squared_error: 0.5479 - rmse: 0.5948 -
mean_absolute_percentage_error: 162.2724
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.5553 -

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mean_absolute_error: 0.2754 - mean_squared_error: 0.5469 - rmse: 0.5853 -
mean_absolute_percentage_error: 159.4226
5/5 [=====] - 0s 2ms/step - loss: 0.2210 -
mean_absolute_error: 0.2701 - mean_squared_error: 0.2126 - rmse: 0.4486 -
mean_absolute_percentage_error: 170.5006
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L1
-----
Training for fold 5 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.1944 -
mean_absolute_error: 0.5702 - mean_squared_error: 1.1904 - rmse: 0.9746 -
mean_absolute_percentage_error: 100.5713
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 1.1825 -
mean_absolute_error: 0.5621 - mean_squared_error: 1.1787 - rmse: 0.9805 -
mean_absolute_percentage_error: 98.4686
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.1716 -
mean_absolute_error: 0.5517 - mean_squared_error: 1.1678 - rmse: 0.9470 -
mean_absolute_percentage_error: 96.7205
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.1576 -
mean_absolute_error: 0.5380 - mean_squared_error: 1.1535 - rmse: 0.8788 -
mean_absolute_percentage_error: 94.4389
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1385 -
mean_absolute_error: 0.5189 - mean_squared_error: 1.1342 - rmse: 0.9361 -
mean_absolute_percentage_error: 92.4307
Epoch 6/50
10/10 [=====] - 0s 2ms/step - loss: 1.1135 -
mean_absolute_error: 0.4930 - mean_squared_error: 1.1088 - rmse: 0.8757 -
mean_absolute_percentage_error: 88.6851
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.0858 -
mean_absolute_error: 0.4634 - mean_squared_error: 1.0806 - rmse: 0.9142 -
mean_absolute_percentage_error: 86.6329
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0558 -
mean_absolute_error: 0.4336 - mean_squared_error: 1.0501 - rmse: 0.8975 -
mean_absolute_percentage_error: 89.2072
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0243 -
mean_absolute_error: 0.4097 - mean_squared_error: 1.0180 - rmse: 0.8511 -
mean_absolute_percentage_error: 91.5205
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.9912 -
mean_absolute_error: 0.3907 - mean_squared_error: 0.9845 - rmse: 0.8701 -

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mean_absolute_percentage_error: 99.3160
Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.9568 -
mean_absolute_error: 0.3737 - mean_squared_error: 0.9497 - rmse: 0.7610 -
mean_absolute_percentage_error: 106.6385
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.9295 -
mean_absolute_error: 0.3588 - mean_squared_error: 0.9220 - rmse: 0.8104 -
mean_absolute_percentage_error: 117.0185
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.8965 -
mean_absolute_error: 0.3425 - mean_squared_error: 0.8887 - rmse: 0.7607 -
mean_absolute_percentage_error: 129.7688
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.8678 -
mean_absolute_error: 0.3300 - mean_squared_error: 0.8596 - rmse: 0.7864 -
mean_absolute_percentage_error: 138.6923
Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8450 -
mean_absolute_error: 0.3198 - mean_squared_error: 0.8364 - rmse: 0.7327 -
mean_absolute_percentage_error: 149.0621
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8210 -
mean_absolute_error: 0.3109 - mean_squared_error: 0.8120 - rmse: 0.7152 -
mean_absolute_percentage_error: 158.4133
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.8005 -
mean_absolute_error: 0.3042 - mean_squared_error: 0.7912 - rmse: 0.7238 -
mean_absolute_percentage_error: 168.4892
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.7828 -
mean_absolute_error: 0.2978 - mean_squared_error: 0.7733 - rmse: 0.7032 -
mean_absolute_percentage_error: 175.4726
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.7692 -
mean_absolute_error: 0.2968 - mean_squared_error: 0.7595 - rmse: 0.7326 -
mean_absolute_percentage_error: 182.6605
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.7574 -
mean_absolute_error: 0.2955 - mean_squared_error: 0.7476 - rmse: 0.6529 -
mean_absolute_percentage_error: 189.2479
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.7484 -
mean_absolute_error: 0.2947 - mean_squared_error: 0.7385 - rmse: 0.7057 -
mean_absolute_percentage_error: 193.7098
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7413 -
mean_absolute_error: 0.2968 - mean_squared_error: 0.7313 - rmse: 0.6567 -

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mean_absolute_percentage_error: 201.7321
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7339 -
mean_absolute_error: 0.2974 - mean_squared_error: 0.7239 - rmse: 0.6772 -
mean_absolute_percentage_error: 205.9530
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.7294 -
mean_absolute_error: 0.2982 - mean_squared_error: 0.7193 - rmse: 0.6812 -
mean_absolute_percentage_error: 209.4601
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.7234 -
mean_absolute_error: 0.2980 - mean_squared_error: 0.7132 - rmse: 0.7185 -
mean_absolute_percentage_error: 212.1585
Epoch 26/50
10/10 [=====] - 0s 4ms/step - loss: 0.7208 -
mean_absolute_error: 0.2987 - mean_squared_error: 0.7105 - rmse: 0.6543 -
mean_absolute_percentage_error: 214.8166
Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.7160 -
mean_absolute_error: 0.2984 - mean_squared_error: 0.7056 - rmse: 0.6793 -
mean_absolute_percentage_error: 218.3469
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7134 -
mean_absolute_error: 0.2978 - mean_squared_error: 0.7030 - rmse: 0.7023 -
mean_absolute_percentage_error: 218.5202
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7116 -
mean_absolute_error: 0.2987 - mean_squared_error: 0.7013 - rmse: 0.6833 -
mean_absolute_percentage_error: 220.8177
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.7091 -
mean_absolute_error: 0.2984 - mean_squared_error: 0.6987 - rmse: 0.6837 -
mean_absolute_percentage_error: 222.7093
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7071 -
mean_absolute_error: 0.2988 - mean_squared_error: 0.6967 - rmse: 0.6997 -
mean_absolute_percentage_error: 224.1998
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.7066 -
mean_absolute_error: 0.2968 - mean_squared_error: 0.6963 - rmse: 0.6063 -
mean_absolute_percentage_error: 222.9236
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7037 -
mean_absolute_error: 0.2959 - mean_squared_error: 0.6934 - rmse: 0.6927 -
mean_absolute_percentage_error: 221.4216
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.7031 -
mean_absolute_error: 0.2968 - mean_squared_error: 0.6928 - rmse: 0.7027 -

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mean_absolute_percentage_error: 223.8598
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7011 -
mean_absolute_error: 0.2964 - mean_squared_error: 0.6908 - rmse: 0.6958 -
mean_absolute_percentage_error: 223.9024
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7007 -
mean_absolute_error: 0.2944 - mean_squared_error: 0.6905 - rmse: 0.6489 -
mean_absolute_percentage_error: 221.5242
Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.6989 -
mean_absolute_error: 0.2943 - mean_squared_error: 0.6887 - rmse: 0.6771 -
mean_absolute_percentage_error: 221.6178
Epoch 38/50
10/10 [=====] - 0s 3ms/step - loss: 0.6988 -
mean_absolute_error: 0.2942 - mean_squared_error: 0.6886 - rmse: 0.6358 -
mean_absolute_percentage_error: 221.9889
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.6969 -
mean_absolute_error: 0.2944 - mean_squared_error: 0.6867 - rmse: 0.7020 -
mean_absolute_percentage_error: 223.0438
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.6978 -
mean_absolute_error: 0.2929 - mean_squared_error: 0.6876 - rmse: 0.6601 -
mean_absolute_percentage_error: 221.2029
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.6957 -
mean_absolute_error: 0.2923 - mean_squared_error: 0.6856 - rmse: 0.7031 -
mean_absolute_percentage_error: 220.0178
Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.6946 -
mean_absolute_error: 0.2929 - mean_squared_error: 0.6846 - rmse: 0.6998 -
mean_absolute_percentage_error: 220.6229
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.6943 -
mean_absolute_error: 0.2930 - mean_squared_error: 0.6843 - rmse: 0.6920 -
mean_absolute_percentage_error: 220.6131
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.6938 -
mean_absolute_error: 0.2926 - mean_squared_error: 0.6838 - rmse: 0.6264 -
mean_absolute_percentage_error: 220.4518
Epoch 45/50
10/10 [=====] - 0s 3ms/step - loss: 0.6930 -
mean_absolute_error: 0.2932 - mean_squared_error: 0.6830 - rmse: 0.6587 -
mean_absolute_percentage_error: 220.9072
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.6923 -
mean_absolute_error: 0.2913 - mean_squared_error: 0.6823 - rmse: 0.6611 -

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mean_absolute_percentage_error: 217.4140
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.6912 -
mean_absolute_error: 0.2918 - mean_squared_error: 0.6813 - rmse: 0.7051 -
mean_absolute_percentage_error: 217.8267
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.6908 -
mean_absolute_error: 0.2907 - mean_squared_error: 0.6810 - rmse: 0.7049 -
mean_absolute_percentage_error: 216.4633
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.6895 -
mean_absolute_error: 0.2888 - mean_squared_error: 0.6797 - rmse: 0.6428 -
mean_absolute_percentage_error: 213.7936
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.6893 -
mean_absolute_error: 0.2891 - mean_squared_error: 0.6795 - rmse: 0.6924 -
mean_absolute_percentage_error: 214.1352
5/5 [=====] - 0s 2ms/step - loss: 0.2440 -
mean_absolute_error: 0.2879 - mean_squared_error: 0.2342 - rmse: 0.4681 -
mean_absolute_percentage_error: 219.3693
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L1
-----
Training for fold 6 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2791 -
mean_absolute_error: 0.5926 - mean_squared_error: 1.2758 - rmse: 0.9743 -
mean_absolute_percentage_error: 101.7034
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 1.2679 -
mean_absolute_error: 0.5863 - mean_squared_error: 1.2645 - rmse: 0.9702 -
mean_absolute_percentage_error: 101.4252
Epoch 3/50
10/10 [=====] - 0s 4ms/step - loss: 1.2540 -
mean_absolute_error: 0.5791 - mean_squared_error: 1.2505 - rmse: 0.9411 -
mean_absolute_percentage_error: 101.4861
Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.2345 -
mean_absolute_error: 0.5693 - mean_squared_error: 1.2308 - rmse: 0.9446 -
mean_absolute_percentage_error: 101.8677
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.2054 -
mean_absolute_error: 0.5553 - mean_squared_error: 1.2014 - rmse: 0.9629 -
mean_absolute_percentage_error: 104.5570
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1733 -
mean_absolute_error: 0.5388 - mean_squared_error: 1.1687 - rmse: 0.9433 -
mean_absolute_percentage_error: 109.2853

```

Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.1250 -
mean_absolute_error: 0.5172 - mean_squared_error: 1.1198 - rmse: 0.9659 -
mean_absolute_percentage_error: 114.2933

Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 1.0806 -
mean_absolute_error: 0.4942 - mean_squared_error: 1.0747 - rmse: 0.8578 -
mean_absolute_percentage_error: 127.4637

Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0283 -
mean_absolute_error: 0.4678 - mean_squared_error: 1.0217 - rmse: 0.8826 -
mean_absolute_percentage_error: 135.4851

Epoch 10/50
10/10 [=====] - 0s 4ms/step - loss: 0.9883 -
mean_absolute_error: 0.4477 - mean_squared_error: 0.9809 - rmse: 0.8312 -
mean_absolute_percentage_error: 144.6616

Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.9541 -
mean_absolute_error: 0.4346 - mean_squared_error: 0.9460 - rmse: 0.7576 -
mean_absolute_percentage_error: 162.6415

Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.9191 -
mean_absolute_error: 0.4210 - mean_squared_error: 0.9106 - rmse: 0.7834 -
mean_absolute_percentage_error: 170.8163

Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.8980 -
mean_absolute_error: 0.4153 - mean_squared_error: 0.8892 - rmse: 0.8533 -
mean_absolute_percentage_error: 183.4560

Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.8808 -
mean_absolute_error: 0.4099 - mean_squared_error: 0.8717 - rmse: 0.8031 -
mean_absolute_percentage_error: 192.1452

Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8656 -
mean_absolute_error: 0.4042 - mean_squared_error: 0.8564 - rmse: 0.7726 -
mean_absolute_percentage_error: 197.4664

Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.8537 -
mean_absolute_error: 0.3994 - mean_squared_error: 0.8443 - rmse: 0.8091 -
mean_absolute_percentage_error: 202.3142

Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8449 -
mean_absolute_error: 0.3945 - mean_squared_error: 0.8355 - rmse: 0.7799 -
mean_absolute_percentage_error: 207.0769

Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.8326 -
mean_absolute_error: 0.3872 - mean_squared_error: 0.8231 - rmse: 0.7472 -
mean_absolute_percentage_error: 209.9255

Epoch 19/50
10/10 [=====] - 0s 4ms/step - loss: 0.8239 -
mean_absolute_error: 0.3775 - mean_squared_error: 0.8144 - rmse: 0.7858 -
mean_absolute_percentage_error: 208.2803
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.8165 -
mean_absolute_error: 0.3700 - mean_squared_error: 0.8069 - rmse: 0.7589 -
mean_absolute_percentage_error: 207.7035
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.8075 -
mean_absolute_error: 0.3610 - mean_squared_error: 0.7981 - rmse: 0.7762 -
mean_absolute_percentage_error: 205.3628
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.8020 -
mean_absolute_error: 0.3534 - mean_squared_error: 0.7925 - rmse: 0.6983 -
mean_absolute_percentage_error: 204.4747
Epoch 23/50
10/10 [=====] - 0s 4ms/step - loss: 0.7973 -
mean_absolute_error: 0.3441 - mean_squared_error: 0.7879 - rmse: 0.7186 -
mean_absolute_percentage_error: 198.4674
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7890 -
mean_absolute_error: 0.3345 - mean_squared_error: 0.7797 - rmse: 0.7610 -
mean_absolute_percentage_error: 194.0548
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.7822 -
mean_absolute_error: 0.3315 - mean_squared_error: 0.7728 - rmse: 0.7416 -
mean_absolute_percentage_error: 195.0641
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7742 -
mean_absolute_error: 0.3253 - mean_squared_error: 0.7648 - rmse: 0.7077 -
mean_absolute_percentage_error: 193.4302
Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.7681 -
mean_absolute_error: 0.3213 - mean_squared_error: 0.7588 - rmse: 0.7117 -
mean_absolute_percentage_error: 191.6299
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7624 -
mean_absolute_error: 0.3187 - mean_squared_error: 0.7530 - rmse: 0.7727 -
mean_absolute_percentage_error: 190.8725
Epoch 29/50
10/10 [=====] - 0s 4ms/step - loss: 0.7570 -
mean_absolute_error: 0.3157 - mean_squared_error: 0.7476 - rmse: 0.7291 -
mean_absolute_percentage_error: 188.0217
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.7525 -
mean_absolute_error: 0.3145 - mean_squared_error: 0.7431 - rmse: 0.7138 -
mean_absolute_percentage_error: 188.8606

Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7485 -
mean_absolute_error: 0.3138 - mean_squared_error: 0.7391 - rmse: 0.7365 -
mean_absolute_percentage_error: 188.3173

Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7445 -
mean_absolute_error: 0.3126 - mean_squared_error: 0.7351 - rmse: 0.7199 -
mean_absolute_percentage_error: 188.3735

Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7427 -
mean_absolute_error: 0.3125 - mean_squared_error: 0.7332 - rmse: 0.7006 -
mean_absolute_percentage_error: 188.8303

Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7390 -
mean_absolute_error: 0.3102 - mean_squared_error: 0.7295 - rmse: 0.6813 -
mean_absolute_percentage_error: 187.7545

Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7375 -
mean_absolute_error: 0.3082 - mean_squared_error: 0.7281 - rmse: 0.6681 -
mean_absolute_percentage_error: 185.5791

Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7348 -
mean_absolute_error: 0.3073 - mean_squared_error: 0.7253 - rmse: 0.7188 -
mean_absolute_percentage_error: 186.0229

Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.7324 -
mean_absolute_error: 0.3075 - mean_squared_error: 0.7230 - rmse: 0.6971 -
mean_absolute_percentage_error: 187.2183

Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7303 -
mean_absolute_error: 0.3039 - mean_squared_error: 0.7210 - rmse: 0.6684 -
mean_absolute_percentage_error: 184.4082

Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7296 -
mean_absolute_error: 0.3045 - mean_squared_error: 0.7203 - rmse: 0.6851 -
mean_absolute_percentage_error: 185.3281

Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.7263 -
mean_absolute_error: 0.3033 - mean_squared_error: 0.7170 - rmse: 0.6700 -
mean_absolute_percentage_error: 184.6879

Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.7247 -
mean_absolute_error: 0.3017 - mean_squared_error: 0.7154 - rmse: 0.7336 -
mean_absolute_percentage_error: 183.5974

Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.7233 -
mean_absolute_error: 0.3000 - mean_squared_error: 0.7140 - rmse: 0.7457 -
mean_absolute_percentage_error: 182.0626

```

Epoch 43/50
10/10 [=====] - 0s 4ms/step - loss: 0.7224 -
mean_absolute_error: 0.2984 - mean_squared_error: 0.7132 - rmse: 0.7094 -
mean_absolute_percentage_error: 180.5869
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.7208 -
mean_absolute_error: 0.2968 - mean_squared_error: 0.7116 - rmse: 0.7014 -
mean_absolute_percentage_error: 179.0461
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7202 -
mean_absolute_error: 0.2988 - mean_squared_error: 0.7110 - rmse: 0.7082 -
mean_absolute_percentage_error: 180.8402
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7188 -
mean_absolute_error: 0.2989 - mean_squared_error: 0.7096 - rmse: 0.6879 -
mean_absolute_percentage_error: 180.5526
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.7173 -
mean_absolute_error: 0.2973 - mean_squared_error: 0.7082 - rmse: 0.7207 -
mean_absolute_percentage_error: 179.0762
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7160 -
mean_absolute_error: 0.2971 - mean_squared_error: 0.7069 - rmse: 0.7221 -
mean_absolute_percentage_error: 178.3954
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.7151 -
mean_absolute_error: 0.2967 - mean_squared_error: 0.7060 - rmse: 0.7295 -
mean_absolute_percentage_error: 177.4555
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7144 -
mean_absolute_error: 0.2962 - mean_squared_error: 0.7054 - rmse: 0.6906 -
mean_absolute_percentage_error: 176.5433
5/5 [=====] - 0s 2ms/step - loss: 0.2508 -
mean_absolute_error: 0.2802 - mean_squared_error: 0.2417 - rmse: 0.4775 -
mean_absolute_percentage_error: 211.5997
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L1
-----
Training for fold 7 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 0.9015 -
mean_absolute_error: 0.5478 - mean_squared_error: 0.8981 - rmse: 0.8859 -
mean_absolute_percentage_error: 100.6503
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 0.8835 -
mean_absolute_error: 0.5339 - mean_squared_error: 0.8800 - rmse: 0.8099 -
mean_absolute_percentage_error: 98.2769
Epoch 3/50

```

10/10 [=====] - 0s 2ms/step - loss: 0.8636 -
mean_absolute_error: 0.5204 - mean_squared_error: 0.8598 - rmse: 0.8406 -
mean_absolute_percentage_error: 97.2165
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 0.8365 -
mean_absolute_error: 0.5050 - mean_squared_error: 0.8324 - rmse: 0.7927 -
mean_absolute_percentage_error: 99.0059
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 0.8055 -
mean_absolute_error: 0.4873 - mean_squared_error: 0.8011 - rmse: 0.8144 -
mean_absolute_percentage_error: 100.9182
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 0.7696 -
mean_absolute_error: 0.4690 - mean_squared_error: 0.7645 - rmse: 0.7438 -
mean_absolute_percentage_error: 110.5697
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 0.7308 -
mean_absolute_error: 0.4446 - mean_squared_error: 0.7251 - rmse: 0.7285 -
mean_absolute_percentage_error: 123.5296
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 0.6883 -
mean_absolute_error: 0.4178 - mean_squared_error: 0.6820 - rmse: 0.7337 -
mean_absolute_percentage_error: 127.7527
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 0.6551 -
mean_absolute_error: 0.3927 - mean_squared_error: 0.6481 - rmse: 0.7155 -
mean_absolute_percentage_error: 140.6238
Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.6237 -
mean_absolute_error: 0.3704 - mean_squared_error: 0.6161 - rmse: 0.6389 -
mean_absolute_percentage_error: 151.9736
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.6009 -
mean_absolute_error: 0.3565 - mean_squared_error: 0.5929 - rmse: 0.6539 -
mean_absolute_percentage_error: 165.0211
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.5814 -
mean_absolute_error: 0.3443 - mean_squared_error: 0.5730 - rmse: 0.6479 -
mean_absolute_percentage_error: 174.1569
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.5696 -
mean_absolute_error: 0.3386 - mean_squared_error: 0.5609 - rmse: 0.6688 -
mean_absolute_percentage_error: 183.1750
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.5584 -
mean_absolute_error: 0.3328 - mean_squared_error: 0.5496 - rmse: 0.6565 -
mean_absolute_percentage_error: 189.0513
Epoch 15/50

10/10 [=====] - 0s 3ms/step - loss: 0.5498 -
mean_absolute_error: 0.3264 - mean_squared_error: 0.5409 - rmse: 0.6173 -
mean_absolute_percentage_error: 192.0739
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.5442 -
mean_absolute_error: 0.3228 - mean_squared_error: 0.5352 - rmse: 0.6543 -
mean_absolute_percentage_error: 199.1100
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.5368 -
mean_absolute_error: 0.3179 - mean_squared_error: 0.5277 - rmse: 0.6211 -
mean_absolute_percentage_error: 201.5442
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.5304 -
mean_absolute_error: 0.3083 - mean_squared_error: 0.5214 - rmse: 0.6223 -
mean_absolute_percentage_error: 196.4344
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.5240 -
mean_absolute_error: 0.2988 - mean_squared_error: 0.5151 - rmse: 0.5700 -
mean_absolute_percentage_error: 193.3430
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.5186 -
mean_absolute_error: 0.2935 - mean_squared_error: 0.5096 - rmse: 0.5847 -
mean_absolute_percentage_error: 193.7672
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.5142 -
mean_absolute_error: 0.2868 - mean_squared_error: 0.5052 - rmse: 0.5847 -
mean_absolute_percentage_error: 192.1247
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.5092 -
mean_absolute_error: 0.2815 - mean_squared_error: 0.5002 - rmse: 0.6206 -
mean_absolute_percentage_error: 190.7967
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.5057 -
mean_absolute_error: 0.2789 - mean_squared_error: 0.4967 - rmse: 0.6193 -
mean_absolute_percentage_error: 193.0855
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.5016 -
mean_absolute_error: 0.2750 - mean_squared_error: 0.4926 - rmse: 0.5942 -
mean_absolute_percentage_error: 192.0100
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.4974 -
mean_absolute_error: 0.2716 - mean_squared_error: 0.4883 - rmse: 0.6010 -
mean_absolute_percentage_error: 191.5527
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.4936 -
mean_absolute_error: 0.2672 - mean_squared_error: 0.4845 - rmse: 0.6032 -
mean_absolute_percentage_error: 189.4794
Epoch 27/50

10/10 [=====] - 0s 3ms/step - loss: 0.4912 -
mean_absolute_error: 0.2647 - mean_squared_error: 0.4821 - rmse: 0.5670 -
mean_absolute_percentage_error: 189.1760
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.4883 -
mean_absolute_error: 0.2629 - mean_squared_error: 0.4793 - rmse: 0.5763 -
mean_absolute_percentage_error: 188.8712
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.4855 -
mean_absolute_error: 0.2619 - mean_squared_error: 0.4764 - rmse: 0.5760 -
mean_absolute_percentage_error: 188.5378
Epoch 30/50
10/10 [=====] - 0s 4ms/step - loss: 0.4829 -
mean_absolute_error: 0.2612 - mean_squared_error: 0.4738 - rmse: 0.5931 -
mean_absolute_percentage_error: 190.3713
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.4787 -
mean_absolute_error: 0.2562 - mean_squared_error: 0.4697 - rmse: 0.5932 -
mean_absolute_percentage_error: 183.7391
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.4766 -
mean_absolute_error: 0.2539 - mean_squared_error: 0.4677 - rmse: 0.5505 -
mean_absolute_percentage_error: 182.3623
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.4745 -
mean_absolute_error: 0.2517 - mean_squared_error: 0.4656 - rmse: 0.5480 -
mean_absolute_percentage_error: 181.5694
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.4711 -
mean_absolute_error: 0.2504 - mean_squared_error: 0.4622 - rmse: 0.5738 -
mean_absolute_percentage_error: 181.0524
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.4692 -
mean_absolute_error: 0.2489 - mean_squared_error: 0.4604 - rmse: 0.5715 -
mean_absolute_percentage_error: 179.9921
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.4672 -
mean_absolute_error: 0.2478 - mean_squared_error: 0.4584 - rmse: 0.5426 -
mean_absolute_percentage_error: 179.0552
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.4650 -
mean_absolute_error: 0.2467 - mean_squared_error: 0.4562 - rmse: 0.5414 -
mean_absolute_percentage_error: 177.8797
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.4642 -
mean_absolute_error: 0.2464 - mean_squared_error: 0.4554 - rmse: 0.5260 -
mean_absolute_percentage_error: 178.4011
Epoch 39/50

```

10/10 [=====] - 0s 2ms/step - loss: 0.4618 -
mean_absolute_error: 0.2438 - mean_squared_error: 0.4529 - rmse: 0.5700 -
mean_absolute_percentage_error: 175.4661
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.4605 -
mean_absolute_error: 0.2425 - mean_squared_error: 0.4517 - rmse: 0.5638 -
mean_absolute_percentage_error: 175.1659
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.4592 -
mean_absolute_error: 0.2414 - mean_squared_error: 0.4503 - rmse: 0.5672 -
mean_absolute_percentage_error: 174.7465
Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.4583 -
mean_absolute_error: 0.2428 - mean_squared_error: 0.4495 - rmse: 0.5603 -
mean_absolute_percentage_error: 176.6761
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.4576 -
mean_absolute_error: 0.2432 - mean_squared_error: 0.4487 - rmse: 0.5658 -
mean_absolute_percentage_error: 177.5065
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.4573 -
mean_absolute_error: 0.2401 - mean_squared_error: 0.4485 - rmse: 0.5518 -
mean_absolute_percentage_error: 172.0546
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.4559 -
mean_absolute_error: 0.2388 - mean_squared_error: 0.4470 - rmse: 0.5600 -
mean_absolute_percentage_error: 171.7168
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.4549 -
mean_absolute_error: 0.2374 - mean_squared_error: 0.4461 - rmse: 0.5308 -
mean_absolute_percentage_error: 170.7448
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.4538 -
mean_absolute_error: 0.2380 - mean_squared_error: 0.4450 - rmse: 0.5230 -
mean_absolute_percentage_error: 170.7993
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.4531 -
mean_absolute_error: 0.2384 - mean_squared_error: 0.4442 - rmse: 0.5740 -
mean_absolute_percentage_error: 171.4151
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.4525 -
mean_absolute_error: 0.2394 - mean_squared_error: 0.4436 - rmse: 0.5190 -
mean_absolute_percentage_error: 172.2110
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.4510 -
mean_absolute_error: 0.2378 - mean_squared_error: 0.4422 - rmse: 0.5694 -
mean_absolute_percentage_error: 169.5848
5/5 [=====] - 0s 2ms/step - loss: 0.2130 -

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mean_absolute_error: 0.2413 - mean_squared_error: 0.2041 - rmse: 0.4391 -
mean_absolute_percentage_error: 191.6294
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L1
-----
Training for fold 8 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2878 -
mean_absolute_error: 0.5820 - mean_squared_error: 1.2839 - rmse: 0.9888 -
mean_absolute_percentage_error: 99.5149
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2747 -
mean_absolute_error: 0.5702 - mean_squared_error: 1.2709 - rmse: 0.9382 -
mean_absolute_percentage_error: 96.3818
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.2639 -
mean_absolute_error: 0.5580 - mean_squared_error: 1.2600 - rmse: 1.0043 -
mean_absolute_percentage_error: 93.4336
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.2525 -
mean_absolute_error: 0.5443 - mean_squared_error: 1.2485 - rmse: 1.0103 -
mean_absolute_percentage_error: 89.5771
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.2394 -
mean_absolute_error: 0.5275 - mean_squared_error: 1.2352 - rmse: 0.9602 -
mean_absolute_percentage_error: 85.7655
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.2217 -
mean_absolute_error: 0.5071 - mean_squared_error: 1.2172 - rmse: 0.9803 -
mean_absolute_percentage_error: 81.3627
Epoch 7/50
10/10 [=====] - 0s 4ms/step - loss: 1.1988 -
mean_absolute_error: 0.4852 - mean_squared_error: 1.1940 - rmse: 0.9912 -
mean_absolute_percentage_error: 78.9570
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.1701 -
mean_absolute_error: 0.4644 - mean_squared_error: 1.1647 - rmse: 0.9541 -
mean_absolute_percentage_error: 79.1934
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 1.1348 -
mean_absolute_error: 0.4460 - mean_squared_error: 1.1289 - rmse: 0.9087 -
mean_absolute_percentage_error: 85.6465
Epoch 10/50
10/10 [=====] - 0s 4ms/step - loss: 1.0880 -
mean_absolute_error: 0.4283 - mean_squared_error: 1.0816 - rmse: 0.8862 -
mean_absolute_percentage_error: 92.9758
Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 1.0478 -

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mean_absolute_error: 0.4106 - mean_squared_error: 1.0409 - rmse: 0.8270 -
mean_absolute_percentage_error: 100.1830
Epoch 12/50
10/10 [=====] - 0s 4ms/step - loss: 1.0066 -
mean_absolute_error: 0.3953 - mean_squared_error: 0.9992 - rmse: 0.8699 -
mean_absolute_percentage_error: 113.5753
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.9668 -
mean_absolute_error: 0.3795 - mean_squared_error: 0.9589 - rmse: 0.8375 -
mean_absolute_percentage_error: 123.4601
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.9292 -
mean_absolute_error: 0.3688 - mean_squared_error: 0.9209 - rmse: 0.7697 -
mean_absolute_percentage_error: 139.3479
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.8996 -
mean_absolute_error: 0.3566 - mean_squared_error: 0.8909 - rmse: 0.8011 -
mean_absolute_percentage_error: 149.7585
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8728 -
mean_absolute_error: 0.3489 - mean_squared_error: 0.8637 - rmse: 0.7152 -
mean_absolute_percentage_error: 161.1314
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8524 -
mean_absolute_error: 0.3441 - mean_squared_error: 0.8430 - rmse: 0.7297 -
mean_absolute_percentage_error: 170.7644
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.8324 -
mean_absolute_error: 0.3368 - mean_squared_error: 0.8227 - rmse: 0.7376 -
mean_absolute_percentage_error: 175.8845
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.8186 -
mean_absolute_error: 0.3329 - mean_squared_error: 0.8087 - rmse: 0.7275 -
mean_absolute_percentage_error: 178.8150
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.8061 -
mean_absolute_error: 0.3327 - mean_squared_error: 0.7960 - rmse: 0.7477 -
mean_absolute_percentage_error: 185.0929
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.7976 -
mean_absolute_error: 0.3334 - mean_squared_error: 0.7873 - rmse: 0.7299 -
mean_absolute_percentage_error: 190.5271
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7873 -
mean_absolute_error: 0.3333 - mean_squared_error: 0.7768 - rmse: 0.7661 -
mean_absolute_percentage_error: 192.6986
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7802 -

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mean_absolute_error: 0.3302 - mean_squared_error: 0.7696 - rmse: 0.6762 -
mean_absolute_percentage_error: 192.0012
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7755 -
mean_absolute_error: 0.3305 - mean_squared_error: 0.7649 - rmse: 0.7697 -
mean_absolute_percentage_error: 192.8752
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7708 -
mean_absolute_error: 0.3313 - mean_squared_error: 0.7602 - rmse: 0.7141 -
mean_absolute_percentage_error: 194.1493
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7690 -
mean_absolute_error: 0.3340 - mean_squared_error: 0.7583 - rmse: 0.6931 -
mean_absolute_percentage_error: 196.4329
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7639 -
mean_absolute_error: 0.3349 - mean_squared_error: 0.7532 - rmse: 0.7246 -
mean_absolute_percentage_error: 199.8617
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7621 -
mean_absolute_error: 0.3320 - mean_squared_error: 0.7514 - rmse: 0.7238 -
mean_absolute_percentage_error: 197.9800
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7589 -
mean_absolute_error: 0.3319 - mean_squared_error: 0.7482 - rmse: 0.7498 -
mean_absolute_percentage_error: 197.2169
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7562 -
mean_absolute_error: 0.3339 - mean_squared_error: 0.7454 - rmse: 0.7284 -
mean_absolute_percentage_error: 199.6494
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7531 -
mean_absolute_error: 0.3336 - mean_squared_error: 0.7424 - rmse: 0.7619 -
mean_absolute_percentage_error: 199.1469
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7510 -
mean_absolute_error: 0.3316 - mean_squared_error: 0.7403 - rmse: 0.7080 -
mean_absolute_percentage_error: 196.5242
Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.7488 -
mean_absolute_error: 0.3298 - mean_squared_error: 0.7381 - rmse: 0.7140 -
mean_absolute_percentage_error: 194.1722
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.7481 -
mean_absolute_error: 0.3301 - mean_squared_error: 0.7374 - rmse: 0.6657 -
mean_absolute_percentage_error: 194.4042
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7454 -

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mean_absolute_error: 0.3283 - mean_squared_error: 0.7347 - rmse: 0.6891 -
mean_absolute_percentage_error: 192.8250
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.7432 -
mean_absolute_error: 0.3256 - mean_squared_error: 0.7326 - rmse: 0.7119 -
mean_absolute_percentage_error: 189.9651
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7415 -
mean_absolute_error: 0.3247 - mean_squared_error: 0.7309 - rmse: 0.7357 -
mean_absolute_percentage_error: 188.4698
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7400 -
mean_absolute_error: 0.3256 - mean_squared_error: 0.7293 - rmse: 0.7197 -
mean_absolute_percentage_error: 190.1959
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7386 -
mean_absolute_error: 0.3270 - mean_squared_error: 0.7279 - rmse: 0.7345 -
mean_absolute_percentage_error: 191.3546
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.7379 -
mean_absolute_error: 0.3284 - mean_squared_error: 0.7272 - rmse: 0.6644 -
mean_absolute_percentage_error: 192.7169
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7367 -
mean_absolute_error: 0.3290 - mean_squared_error: 0.7260 - rmse: 0.6774 -
mean_absolute_percentage_error: 193.9590
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7347 -
mean_absolute_error: 0.3259 - mean_squared_error: 0.7240 - rmse: 0.7382 -
mean_absolute_percentage_error: 191.4373
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7338 -
mean_absolute_error: 0.3260 - mean_squared_error: 0.7231 - rmse: 0.7237 -
mean_absolute_percentage_error: 191.4826
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.7336 -
mean_absolute_error: 0.3267 - mean_squared_error: 0.7229 - rmse: 0.7328 -
mean_absolute_percentage_error: 191.9704
Epoch 45/50
10/10 [=====] - 0s 3ms/step - loss: 0.7331 -
mean_absolute_error: 0.3247 - mean_squared_error: 0.7225 - rmse: 0.7123 -
mean_absolute_percentage_error: 189.0711
Epoch 46/50
10/10 [=====] - 0s 4ms/step - loss: 0.7334 -
mean_absolute_error: 0.3251 - mean_squared_error: 0.7227 - rmse: 0.6829 -
mean_absolute_percentage_error: 189.4520
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7304 -

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mean_absolute_error: 0.3262 - mean_squared_error: 0.7197 - rmse: 0.7175 -
mean_absolute_percentage_error: 190.7117
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7303 -
mean_absolute_error: 0.3227 - mean_squared_error: 0.7196 - rmse: 0.7329 -
mean_absolute_percentage_error: 187.8979
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7291 -
mean_absolute_error: 0.3191 - mean_squared_error: 0.7185 - rmse: 0.7277 -
mean_absolute_percentage_error: 185.1497
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7271 -
mean_absolute_error: 0.3200 - mean_squared_error: 0.7165 - rmse: 0.7104 -
mean_absolute_percentage_error: 185.2850
5/5 [=====] - 0s 2ms/step - loss: 0.2396 -
mean_absolute_error: 0.2879 - mean_squared_error: 0.2290 - rmse: 0.4610 -
mean_absolute_percentage_error: 220.9783
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L1
-----
Training for fold 9 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2825 -
mean_absolute_error: 0.5832 - mean_squared_error: 1.2791 - rmse: 1.0526 -
mean_absolute_percentage_error: 101.6746
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2599 -
mean_absolute_error: 0.5778 - mean_squared_error: 1.2565 - rmse: 1.0263 -
mean_absolute_percentage_error: 102.7995
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.2365 -
mean_absolute_error: 0.5700 - mean_squared_error: 1.2329 - rmse: 0.9902 -
mean_absolute_percentage_error: 105.9291
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.2143 -
mean_absolute_error: 0.5612 - mean_squared_error: 1.2105 - rmse: 0.9852 -
mean_absolute_percentage_error: 109.8545
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.1869 -
mean_absolute_error: 0.5507 - mean_squared_error: 1.1827 - rmse: 0.9723 -
mean_absolute_percentage_error: 115.2943
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1575 -
mean_absolute_error: 0.5371 - mean_squared_error: 1.1528 - rmse: 0.9791 -
mean_absolute_percentage_error: 123.9371
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.1199 -
mean_absolute_error: 0.5182 - mean_squared_error: 1.1145 - rmse: 0.9089 -

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mean_absolute_percentage_error: 132.2312
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0823 -
mean_absolute_error: 0.4962 - mean_squared_error: 1.0762 - rmse: 0.9145 -
mean_absolute_percentage_error: 137.9723
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0459 -
mean_absolute_error: 0.4720 - mean_squared_error: 1.0392 - rmse: 0.8800 -
mean_absolute_percentage_error: 146.4372
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 1.0144 -
mean_absolute_error: 0.4494 - mean_squared_error: 1.0071 - rmse: 0.8141 -
mean_absolute_percentage_error: 157.5224
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9780 -
mean_absolute_error: 0.4320 - mean_squared_error: 0.9701 - rmse: 0.8334 -
mean_absolute_percentage_error: 168.9615
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.9555 -
mean_absolute_error: 0.4202 - mean_squared_error: 0.9472 - rmse: 0.8266 -
mean_absolute_percentage_error: 181.7684
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.9316 -
mean_absolute_error: 0.4125 - mean_squared_error: 0.9229 - rmse: 0.8537 -
mean_absolute_percentage_error: 191.3868
Epoch 14/50
10/10 [=====] - 0s 4ms/step - loss: 0.9136 -
mean_absolute_error: 0.4054 - mean_squared_error: 0.9047 - rmse: 0.8018 -
mean_absolute_percentage_error: 201.3625
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.8988 -
mean_absolute_error: 0.4017 - mean_squared_error: 0.8897 - rmse: 0.7669 -
mean_absolute_percentage_error: 214.0818
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8838 -
mean_absolute_error: 0.3955 - mean_squared_error: 0.8745 - rmse: 0.8324 -
mean_absolute_percentage_error: 221.3545
Epoch 17/50
10/10 [=====] - 0s 4ms/step - loss: 0.8694 -
mean_absolute_error: 0.3880 - mean_squared_error: 0.8599 - rmse: 0.8073 -
mean_absolute_percentage_error: 227.5792
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.8565 -
mean_absolute_error: 0.3756 - mean_squared_error: 0.8470 - rmse: 0.7223 -
mean_absolute_percentage_error: 227.1875
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8450 -
mean_absolute_error: 0.3648 - mean_squared_error: 0.8354 - rmse: 0.7526 -

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mean_absolute_percentage_error: 229.1306
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.8314 -
mean_absolute_error: 0.3559 - mean_squared_error: 0.8217 - rmse: 0.7651 -
mean_absolute_percentage_error: 231.6403
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.8205 -
mean_absolute_error: 0.3472 - mean_squared_error: 0.8107 - rmse: 0.7971 -
mean_absolute_percentage_error: 232.8168
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.8091 -
mean_absolute_error: 0.3392 - mean_squared_error: 0.7992 - rmse: 0.7688 -
mean_absolute_percentage_error: 230.3874
Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.7994 -
mean_absolute_error: 0.3344 - mean_squared_error: 0.7894 - rmse: 0.6836 -
mean_absolute_percentage_error: 233.0534
Epoch 24/50
10/10 [=====] - 0s 4ms/step - loss: 0.7926 -
mean_absolute_error: 0.3320 - mean_squared_error: 0.7825 - rmse: 0.6350 -
mean_absolute_percentage_error: 232.6866
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.7860 -
mean_absolute_error: 0.3335 - mean_squared_error: 0.7757 - rmse: 0.7019 -
mean_absolute_percentage_error: 237.9651
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7799 -
mean_absolute_error: 0.3317 - mean_squared_error: 0.7695 - rmse: 0.7495 -
mean_absolute_percentage_error: 237.8998
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7748 -
mean_absolute_error: 0.3313 - mean_squared_error: 0.7644 - rmse: 0.7584 -
mean_absolute_percentage_error: 238.4421
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7719 -
mean_absolute_error: 0.3293 - mean_squared_error: 0.7616 - rmse: 0.7029 -
mean_absolute_percentage_error: 235.1365
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7688 -
mean_absolute_error: 0.3295 - mean_squared_error: 0.7584 - rmse: 0.7276 -
mean_absolute_percentage_error: 235.2210
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7664 -
mean_absolute_error: 0.3329 - mean_squared_error: 0.7560 - rmse: 0.7288 -
mean_absolute_percentage_error: 239.9211
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7631 -
mean_absolute_error: 0.3309 - mean_squared_error: 0.7526 - rmse: 0.7541 -

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mean_absolute_percentage_error: 238.2434
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7603 -
mean_absolute_error: 0.3291 - mean_squared_error: 0.7499 - rmse: 0.7464 -
mean_absolute_percentage_error: 235.7798
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7580 -
mean_absolute_error: 0.3293 - mean_squared_error: 0.7476 - rmse: 0.7467 -
mean_absolute_percentage_error: 235.1043
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7555 -
mean_absolute_error: 0.3281 - mean_squared_error: 0.7451 - rmse: 0.7104 -
mean_absolute_percentage_error: 235.8824
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7581 -
mean_absolute_error: 0.3322 - mean_squared_error: 0.7476 - rmse: 0.7046 -
mean_absolute_percentage_error: 241.9522
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.7520 -
mean_absolute_error: 0.3303 - mean_squared_error: 0.7415 - rmse: 0.7065 -
mean_absolute_percentage_error: 239.6097
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7504 -
mean_absolute_error: 0.3269 - mean_squared_error: 0.7399 - rmse: 0.7113 -
mean_absolute_percentage_error: 235.5544
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7484 -
mean_absolute_error: 0.3253 - mean_squared_error: 0.7380 - rmse: 0.7398 -
mean_absolute_percentage_error: 234.2126
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7484 -
mean_absolute_error: 0.3261 - mean_squared_error: 0.7380 - rmse: 0.6845 -
mean_absolute_percentage_error: 234.5624
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7461 -
mean_absolute_error: 0.3248 - mean_squared_error: 0.7356 - rmse: 0.7133 -
mean_absolute_percentage_error: 233.8332
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7445 -
mean_absolute_error: 0.3234 - mean_squared_error: 0.7341 - rmse: 0.7424 -
mean_absolute_percentage_error: 231.8551
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7435 -
mean_absolute_error: 0.3239 - mean_squared_error: 0.7331 - rmse: 0.7211 -
mean_absolute_percentage_error: 232.5629
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.7417 -
mean_absolute_error: 0.3220 - mean_squared_error: 0.7312 - rmse: 0.7412 -

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mean_absolute_percentage_error: 230.4102
Epoch 44/50
10/10 [=====] - 0s 4ms/step - loss: 0.7408 -
mean_absolute_error: 0.3201 - mean_squared_error: 0.7303 - rmse: 0.7475 -
mean_absolute_percentage_error: 227.2361
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7410 -
mean_absolute_error: 0.3209 - mean_squared_error: 0.7305 - rmse: 0.6956 -
mean_absolute_percentage_error: 228.1603
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7387 -
mean_absolute_error: 0.3204 - mean_squared_error: 0.7283 - rmse: 0.7425 -
mean_absolute_percentage_error: 227.1275
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7378 -
mean_absolute_error: 0.3187 - mean_squared_error: 0.7274 - rmse: 0.7250 -
mean_absolute_percentage_error: 224.8636
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.7369 -
mean_absolute_error: 0.3189 - mean_squared_error: 0.7265 - rmse: 0.7392 -
mean_absolute_percentage_error: 224.4193
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7365 -
mean_absolute_error: 0.3168 - mean_squared_error: 0.7260 - rmse: 0.6891 -
mean_absolute_percentage_error: 220.9786
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.7352 -
mean_absolute_error: 0.3172 - mean_squared_error: 0.7247 - rmse: 0.7114 -
mean_absolute_percentage_error: 221.9499
5/5 [=====] - 0s 2ms/step - loss: 0.2456 -
mean_absolute_error: 0.2854 - mean_squared_error: 0.2351 - rmse: 0.4699 -
mean_absolute_percentage_error: 213.3924
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L1
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Training for fold 10 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2843 -
mean_absolute_error: 0.5762 - mean_squared_error: 1.2806 - rmse: 0.9831 -
mean_absolute_percentage_error: 96.4587
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2716 -
mean_absolute_error: 0.5660 - mean_squared_error: 1.2677 - rmse: 0.9710 -
mean_absolute_percentage_error: 94.1954
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.2555 -
mean_absolute_error: 0.5511 - mean_squared_error: 1.2513 - rmse: 1.0435 -
mean_absolute_percentage_error: 91.8839

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Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.2365 -
mean_absolute_error: 0.5316 - mean_squared_error: 1.2321 - rmse: 1.0098 -
mean_absolute_percentage_error: 88.6915

Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.2137 -
mean_absolute_error: 0.5071 - mean_squared_error: 1.2089 - rmse: 0.9562 -
mean_absolute_percentage_error: 86.0226

Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1906 -
mean_absolute_error: 0.4782 - mean_squared_error: 1.1852 - rmse: 0.9635 -
mean_absolute_percentage_error: 81.7977

Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.1661 -
mean_absolute_error: 0.4499 - mean_squared_error: 1.1603 - rmse: 0.9315 -
mean_absolute_percentage_error: 80.1152

Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.1419 -
mean_absolute_error: 0.4283 - mean_squared_error: 1.1357 - rmse: 0.8945 -
mean_absolute_percentage_error: 81.3573

Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 1.1189 -
mean_absolute_error: 0.4121 - mean_squared_error: 1.1124 - rmse: 0.9515 -
mean_absolute_percentage_error: 83.9557

Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 1.0948 -
mean_absolute_error: 0.3982 - mean_squared_error: 1.0881 - rmse: 0.9219 -
mean_absolute_percentage_error: 89.8986

Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 1.0671 -
mean_absolute_error: 0.3828 - mean_squared_error: 1.0602 - rmse: 0.9188 -
mean_absolute_percentage_error: 92.7303

Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 1.0419 -
mean_absolute_error: 0.3682 - mean_squared_error: 1.0347 - rmse: 0.8700 -
mean_absolute_percentage_error: 100.1161

Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 1.0134 -
mean_absolute_error: 0.3541 - mean_squared_error: 1.0060 - rmse: 0.8485 -
mean_absolute_percentage_error: 108.1219

Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.9889 -
mean_absolute_error: 0.3428 - mean_squared_error: 0.9813 - rmse: 0.8311 -
mean_absolute_percentage_error: 115.3200

Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.9640 -
mean_absolute_error: 0.3312 - mean_squared_error: 0.9562 - rmse: 0.7843 -
mean_absolute_percentage_error: 122.6196

Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.9416 -
mean_absolute_error: 0.3238 - mean_squared_error: 0.9336 - rmse: 0.8152 -
mean_absolute_percentage_error: 130.8422

Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.9178 -
mean_absolute_error: 0.3185 - mean_squared_error: 0.9096 - rmse: 0.7382 -
mean_absolute_percentage_error: 141.8077

Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.8957 -
mean_absolute_error: 0.3132 - mean_squared_error: 0.8875 - rmse: 0.7119 -
mean_absolute_percentage_error: 147.8051

Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8795 -
mean_absolute_error: 0.3098 - mean_squared_error: 0.8711 - rmse: 0.7723 -
mean_absolute_percentage_error: 155.6376

Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.8612 -
mean_absolute_error: 0.3081 - mean_squared_error: 0.8528 - rmse: 0.7218 -
mean_absolute_percentage_error: 164.5723

Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.8513 -
mean_absolute_error: 0.3083 - mean_squared_error: 0.8428 - rmse: 0.7327 -
mean_absolute_percentage_error: 174.9891

Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.8311 -
mean_absolute_error: 0.3070 - mean_squared_error: 0.8225 - rmse: 0.7425 -
mean_absolute_percentage_error: 181.5690

Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.8189 -
mean_absolute_error: 0.3073 - mean_squared_error: 0.8103 - rmse: 0.7334 -
mean_absolute_percentage_error: 190.3947

Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.8125 -
mean_absolute_error: 0.3089 - mean_squared_error: 0.8037 - rmse: 0.6408 -
mean_absolute_percentage_error: 198.3765

Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.8006 -
mean_absolute_error: 0.3104 - mean_squared_error: 0.7918 - rmse: 0.6882 -
mean_absolute_percentage_error: 205.2904

Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7903 -
mean_absolute_error: 0.3101 - mean_squared_error: 0.7814 - rmse: 0.6649 -
mean_absolute_percentage_error: 209.3746

Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.7831 -
mean_absolute_error: 0.3102 - mean_squared_error: 0.7741 - rmse: 0.6115 -
mean_absolute_percentage_error: 213.8408

Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7772 -
mean_absolute_error: 0.3098 - mean_squared_error: 0.7682 - rmse: 0.7164 -
mean_absolute_percentage_error: 215.8361

Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7728 -
mean_absolute_error: 0.3114 - mean_squared_error: 0.7637 - rmse: 0.7163 -
mean_absolute_percentage_error: 222.5687

Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.7685 -
mean_absolute_error: 0.3136 - mean_squared_error: 0.7593 - rmse: 0.7728 -
mean_absolute_percentage_error: 229.1919

Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7629 -
mean_absolute_error: 0.3143 - mean_squared_error: 0.7537 - rmse: 0.7164 -
mean_absolute_percentage_error: 232.3401

Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.7600 -
mean_absolute_error: 0.3137 - mean_squared_error: 0.7508 - rmse: 0.7313 -
mean_absolute_percentage_error: 233.3584

Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.7574 -
mean_absolute_error: 0.3156 - mean_squared_error: 0.7482 - rmse: 0.7597 -
mean_absolute_percentage_error: 236.2584

Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.7551 -
mean_absolute_error: 0.3173 - mean_squared_error: 0.7459 - rmse: 0.7451 -
mean_absolute_percentage_error: 239.6705

Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7535 -
mean_absolute_error: 0.3189 - mean_squared_error: 0.7443 - rmse: 0.7264 -
mean_absolute_percentage_error: 243.5041

Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.7519 -
mean_absolute_error: 0.3202 - mean_squared_error: 0.7428 - rmse: 0.7529 -
mean_absolute_percentage_error: 245.2661

Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7498 -
mean_absolute_error: 0.3203 - mean_squared_error: 0.7407 - rmse: 0.6753 -
mean_absolute_percentage_error: 244.1166

Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7475 -
mean_absolute_error: 0.3194 - mean_squared_error: 0.7384 - rmse: 0.7218 -
mean_absolute_percentage_error: 243.9403

Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7472 -
mean_absolute_error: 0.3210 - mean_squared_error: 0.7381 - rmse: 0.6952 -
mean_absolute_percentage_error: 247.1820

Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7446 -
mean_absolute_error: 0.3206 - mean_squared_error: 0.7355 - rmse: 0.7421 -
mean_absolute_percentage_error: 248.5444

Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7440 -
mean_absolute_error: 0.3213 - mean_squared_error: 0.7350 - rmse: 0.6962 -
mean_absolute_percentage_error: 248.7934

Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7424 -
mean_absolute_error: 0.3218 - mean_squared_error: 0.7333 - rmse: 0.7111 -
mean_absolute_percentage_error: 249.5912

Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.7412 -
mean_absolute_error: 0.3211 - mean_squared_error: 0.7321 - rmse: 0.7018 -
mean_absolute_percentage_error: 248.5279

Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7404 -
mean_absolute_error: 0.3203 - mean_squared_error: 0.7314 - rmse: 0.6881 -
mean_absolute_percentage_error: 247.4574

Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7392 -
mean_absolute_error: 0.3216 - mean_squared_error: 0.7302 - rmse: 0.6924 -
mean_absolute_percentage_error: 248.2434

Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7373 -
mean_absolute_error: 0.3215 - mean_squared_error: 0.7284 - rmse: 0.7267 -
mean_absolute_percentage_error: 246.9670

Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.7361 -
mean_absolute_error: 0.3214 - mean_squared_error: 0.7272 - rmse: 0.7053 -
mean_absolute_percentage_error: 246.7988

Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.7350 -
mean_absolute_error: 0.3204 - mean_squared_error: 0.7261 - rmse: 0.7311 -
mean_absolute_percentage_error: 245.2288

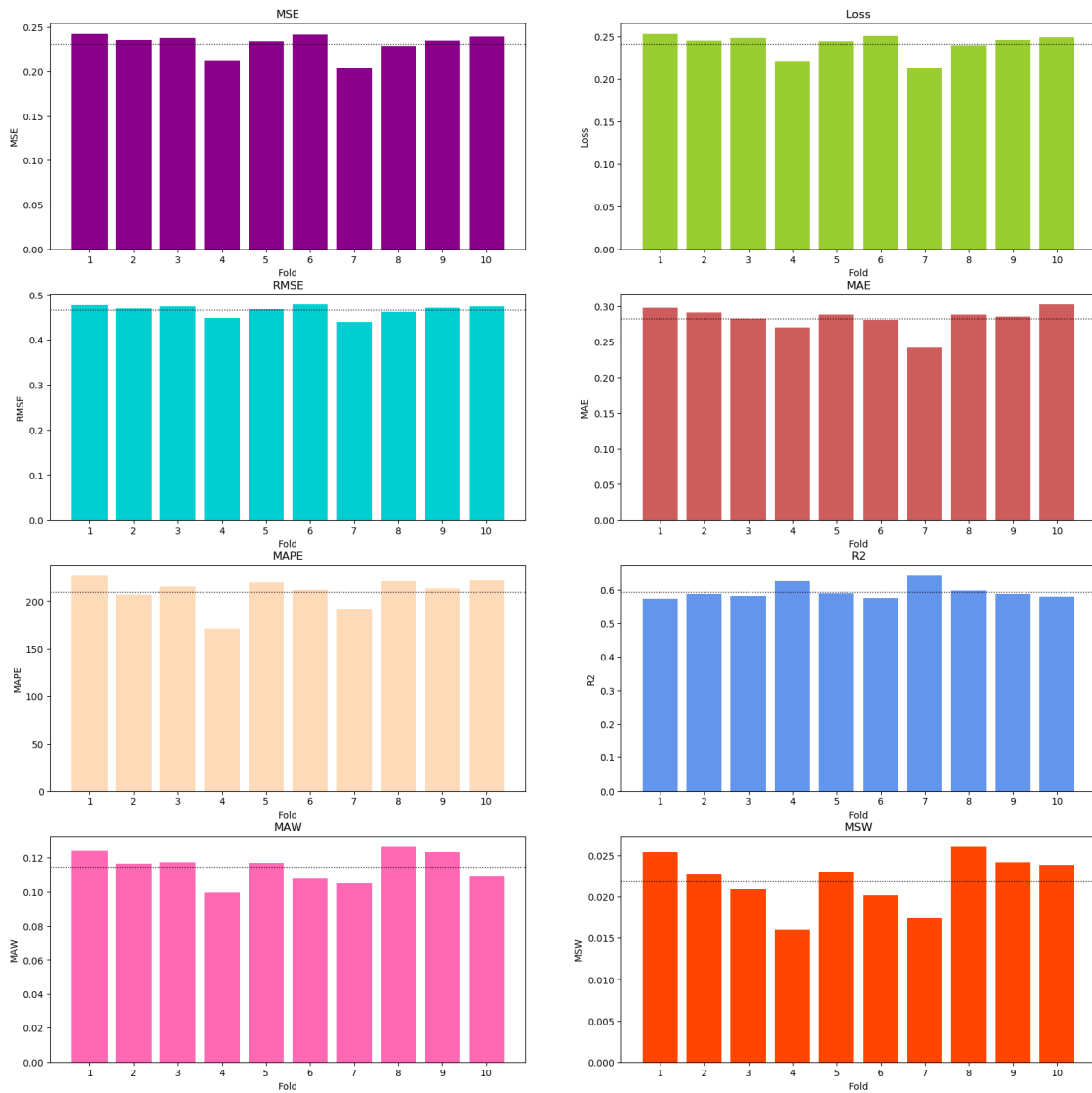
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7338 -
mean_absolute_error: 0.3210 - mean_squared_error: 0.7249 - rmse: 0.7108 -
mean_absolute_percentage_error: 244.5925

Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.7325 -
mean_absolute_error: 0.3202 - mean_squared_error: 0.7237 - rmse: 0.7237 -
mean_absolute_percentage_error: 243.5801

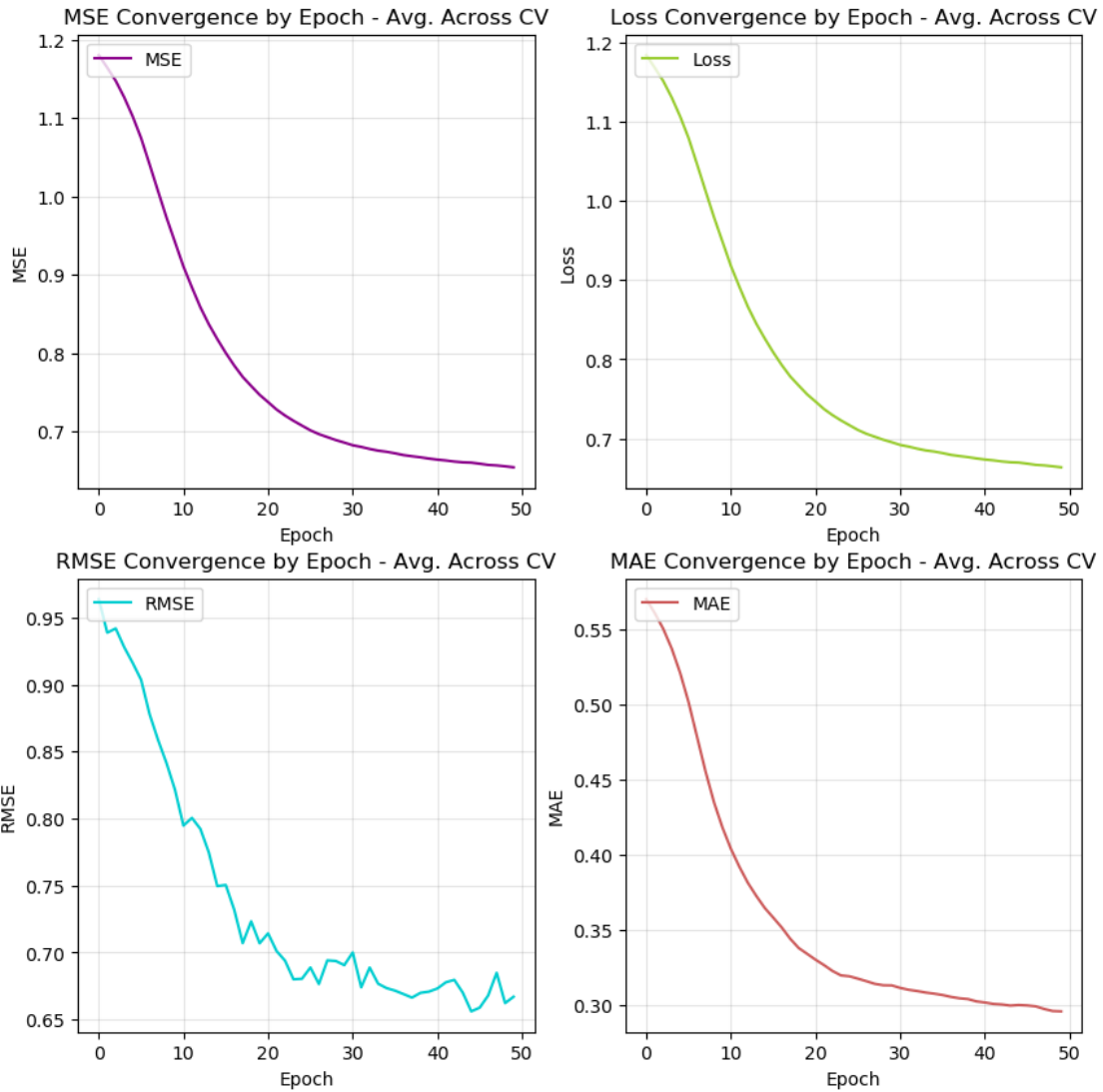
5/5 [=====] - 0s 2ms/step - loss: 0.2487 -
mean_absolute_error: 0.3020 - mean_squared_error: 0.2399 - rmse: 0.4739 -
mean_absolute_percentage_error: 221.7562

5/5 [=====] - 0s 2ms/step


```
[19]: #Graph for Measures
figure_l1 = graph_metric_by_fold(compendium_l1)
plt.show()
```



```
[20]: #Graph for Convergence
figure_l1 = graph_epoch_convergence(compendium_l1)
plt.show()
```



6 L2 Regularization

```
[21]: #Creating the MLP
compendium_l2 = folds_and_model(x_tr, y_tr, x_ts, y_ts,
                                7, regularizer = 'L2', input_no = 13,
                                batch = 32, epochs_no = 50)
```

Regularizer chosen is L2

Training for fold 1 ...

Epoch 1/50

10/10 [=====] - 1s 2ms/step - loss: 1.2603 -

mean_absolute_error: 0.5726 - mean_squared_error: 1.2601 - rmse: 1.0126 -

mean_absolute_percentage_error: 98.3097
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 1.2478 -
mean_absolute_error: 0.5648 - mean_squared_error: 1.2476 - rmse: 0.9815 -
mean_absolute_percentage_error: 95.9077
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.2331 -
mean_absolute_error: 0.5563 - mean_squared_error: 1.2328 - rmse: 0.9743 -
mean_absolute_percentage_error: 96.0269
Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.2112 -
mean_absolute_error: 0.5438 - mean_squared_error: 1.2109 - rmse: 0.9784 -
mean_absolute_percentage_error: 97.0267
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1830 -
mean_absolute_error: 0.5273 - mean_squared_error: 1.1827 - rmse: 0.9774 -
mean_absolute_percentage_error: 100.4705
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1494 -
mean_absolute_error: 0.5052 - mean_squared_error: 1.1490 - rmse: 0.9023 -
mean_absolute_percentage_error: 103.9538
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.1101 -
mean_absolute_error: 0.4786 - mean_squared_error: 1.1096 - rmse: 0.9532 -
mean_absolute_percentage_error: 108.7607
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0724 -
mean_absolute_error: 0.4507 - mean_squared_error: 1.0718 - rmse: 0.8832 -
mean_absolute_percentage_error: 117.4052
Epoch 9/50
10/10 [=====] - 0s 4ms/step - loss: 1.0300 -
mean_absolute_error: 0.4257 - mean_squared_error: 1.0293 - rmse: 0.8778 -
mean_absolute_percentage_error: 122.7884
Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.9951 -
mean_absolute_error: 0.4055 - mean_squared_error: 0.9943 - rmse: 0.8054 -
mean_absolute_percentage_error: 133.5951
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9632 -
mean_absolute_error: 0.3907 - mean_squared_error: 0.9623 - rmse: 0.8274 -
mean_absolute_percentage_error: 145.0028
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.9325 -
mean_absolute_error: 0.3797 - mean_squared_error: 0.9315 - rmse: 0.7884 -
mean_absolute_percentage_error: 161.6817
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.9129 -
mean_absolute_error: 0.3716 - mean_squared_error: 0.9118 - rmse: 0.8284 -

```

mean_absolute_percentage_error: 173.8306
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.8853 -
mean_absolute_error: 0.3624 - mean_squared_error: 0.8841 - rmse: 0.8441 -
mean_absolute_percentage_error: 185.8143
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.8681 -
mean_absolute_error: 0.3544 - mean_squared_error: 0.8668 - rmse: 0.7875 -
mean_absolute_percentage_error: 196.2878
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8475 -
mean_absolute_error: 0.3465 - mean_squared_error: 0.8462 - rmse: 0.7626 -
mean_absolute_percentage_error: 205.2226
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8279 -
mean_absolute_error: 0.3354 - mean_squared_error: 0.8265 - rmse: 0.7293 -
mean_absolute_percentage_error: 209.2540
Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.8123 -
mean_absolute_error: 0.3271 - mean_squared_error: 0.8108 - rmse: 0.7219 -
mean_absolute_percentage_error: 212.3282
Epoch 19/50
10/10 [=====] - 0s 4ms/step - loss: 0.8021 -
mean_absolute_error: 0.3228 - mean_squared_error: 0.8005 - rmse: 0.7616 -
mean_absolute_percentage_error: 216.1204
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.7906 -
mean_absolute_error: 0.3203 - mean_squared_error: 0.7890 - rmse: 0.7569 -
mean_absolute_percentage_error: 219.4421
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.7836 -
mean_absolute_error: 0.3215 - mean_squared_error: 0.7819 - rmse: 0.7259 -
mean_absolute_percentage_error: 225.0268
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.7797 -
mean_absolute_error: 0.3272 - mean_squared_error: 0.7780 - rmse: 0.6951 -
mean_absolute_percentage_error: 232.0801
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7718 -
mean_absolute_error: 0.3283 - mean_squared_error: 0.7701 - rmse: 0.7594 -
mean_absolute_percentage_error: 233.1318
Epoch 24/50
10/10 [=====] - 0s 4ms/step - loss: 0.7668 -
mean_absolute_error: 0.3280 - mean_squared_error: 0.7650 - rmse: 0.7502 -
mean_absolute_percentage_error: 233.4790
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7646 -
mean_absolute_error: 0.3283 - mean_squared_error: 0.7628 - rmse: 0.6910 -

```

```

mean_absolute_percentage_error: 234.2973
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7609 -
mean_absolute_error: 0.3312 - mean_squared_error: 0.7591 - rmse: 0.7150 -
mean_absolute_percentage_error: 237.2545
Epoch 27/50
10/10 [=====] - 0s 4ms/step - loss: 0.7570 -
mean_absolute_error: 0.3314 - mean_squared_error: 0.7551 - rmse: 0.7627 -
mean_absolute_percentage_error: 238.0168
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7541 -
mean_absolute_error: 0.3303 - mean_squared_error: 0.7522 - rmse: 0.7240 -
mean_absolute_percentage_error: 236.5617
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7514 -
mean_absolute_error: 0.3293 - mean_squared_error: 0.7495 - rmse: 0.6950 -
mean_absolute_percentage_error: 236.0621
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7491 -
mean_absolute_error: 0.3280 - mean_squared_error: 0.7472 - rmse: 0.7000 -
mean_absolute_percentage_error: 232.9431
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7479 -
mean_absolute_error: 0.3302 - mean_squared_error: 0.7460 - rmse: 0.7324 -
mean_absolute_percentage_error: 235.6272
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7449 -
mean_absolute_error: 0.3304 - mean_squared_error: 0.7430 - rmse: 0.7240 -
mean_absolute_percentage_error: 236.2751
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7429 -
mean_absolute_error: 0.3298 - mean_squared_error: 0.7409 - rmse: 0.7103 -
mean_absolute_percentage_error: 234.7605
Epoch 34/50
10/10 [=====] - 0s 4ms/step - loss: 0.7417 -
mean_absolute_error: 0.3261 - mean_squared_error: 0.7398 - rmse: 0.7020 -
mean_absolute_percentage_error: 230.0272
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7386 -
mean_absolute_error: 0.3239 - mean_squared_error: 0.7367 - rmse: 0.7331 -
mean_absolute_percentage_error: 227.7999
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7371 -
mean_absolute_error: 0.3243 - mean_squared_error: 0.7352 - rmse: 0.7350 -
mean_absolute_percentage_error: 227.1148
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7351 -
mean_absolute_error: 0.3250 - mean_squared_error: 0.7331 - rmse: 0.7341 -

```

mean_absolute_percentage_error: 228.2725
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7330 -
mean_absolute_error: 0.3250 - mean_squared_error: 0.7310 - rmse: 0.7106 -
mean_absolute_percentage_error: 227.6991
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7325 -
mean_absolute_error: 0.3252 - mean_squared_error: 0.7305 - rmse: 0.7444 -
mean_absolute_percentage_error: 228.4390
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7296 -
mean_absolute_error: 0.3226 - mean_squared_error: 0.7276 - rmse: 0.7432 -
mean_absolute_percentage_error: 224.2176
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7284 -
mean_absolute_error: 0.3209 - mean_squared_error: 0.7263 - rmse: 0.6924 -
mean_absolute_percentage_error: 221.4377
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7267 -
mean_absolute_error: 0.3207 - mean_squared_error: 0.7247 - rmse: 0.7243 -
mean_absolute_percentage_error: 221.5995
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7264 -
mean_absolute_error: 0.3206 - mean_squared_error: 0.7243 - rmse: 0.6957 -
mean_absolute_percentage_error: 221.2174
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.7245 -
mean_absolute_error: 0.3178 - mean_squared_error: 0.7224 - rmse: 0.7249 -
mean_absolute_percentage_error: 216.3550
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7254 -
mean_absolute_error: 0.3199 - mean_squared_error: 0.7233 - rmse: 0.6905 -
mean_absolute_percentage_error: 219.4225
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7236 -
mean_absolute_error: 0.3191 - mean_squared_error: 0.7215 - rmse: 0.7271 -
mean_absolute_percentage_error: 218.1188
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.7259 -
mean_absolute_error: 0.3223 - mean_squared_error: 0.7238 - rmse: 0.6618 -
mean_absolute_percentage_error: 220.3864
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7211 -
mean_absolute_error: 0.3213 - mean_squared_error: 0.7190 - rmse: 0.7192 -
mean_absolute_percentage_error: 220.2548
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7198 -
mean_absolute_error: 0.3191 - mean_squared_error: 0.7177 - rmse: 0.6927 -

```

mean_absolute_percentage_error: 215.8837
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7205 -
mean_absolute_error: 0.3167 - mean_squared_error: 0.7184 - rmse: 0.6662 -
mean_absolute_percentage_error: 210.4989
5/5 [=====] - 0s 2ms/step - loss: 0.2425 -
mean_absolute_error: 0.2961 - mean_squared_error: 0.2404 - rmse: 0.4765 -
mean_absolute_percentage_error: 211.5521
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L2
-----
Training for fold 2 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2908 -
mean_absolute_error: 0.5917 - mean_squared_error: 1.2905 - rmse: 0.9920 -
mean_absolute_percentage_error: 104.6660
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2774 -
mean_absolute_error: 0.5857 - mean_squared_error: 1.2771 - rmse: 0.9807 -
mean_absolute_percentage_error: 104.0544
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.2595 -
mean_absolute_error: 0.5786 - mean_squared_error: 1.2592 - rmse: 0.9604 -
mean_absolute_percentage_error: 103.7148
Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.2368 -
mean_absolute_error: 0.5679 - mean_squared_error: 1.2365 - rmse: 0.9572 -
mean_absolute_percentage_error: 103.7272
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.2066 -
mean_absolute_error: 0.5533 - mean_squared_error: 1.2062 - rmse: 0.9527 -
mean_absolute_percentage_error: 109.5480
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1702 -
mean_absolute_error: 0.5340 - mean_squared_error: 1.1698 - rmse: 0.9402 -
mean_absolute_percentage_error: 114.7591
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.1272 -
mean_absolute_error: 0.5101 - mean_squared_error: 1.1267 - rmse: 0.9256 -
mean_absolute_percentage_error: 122.2556
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 1.0836 -
mean_absolute_error: 0.4841 - mean_squared_error: 1.0831 - rmse: 0.8401 -
mean_absolute_percentage_error: 129.3494
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0375 -
mean_absolute_error: 0.4572 - mean_squared_error: 1.0368 - rmse: 0.9010 -
mean_absolute_percentage_error: 138.9721

```

Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 1.0040 -
mean_absolute_error: 0.4390 - mean_squared_error: 1.0032 - rmse: 0.8524 -
mean_absolute_percentage_error: 156.9309

Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9664 -
mean_absolute_error: 0.4239 - mean_squared_error: 0.9656 - rmse: 0.7923 -
mean_absolute_percentage_error: 167.6353

Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.9398 -
mean_absolute_error: 0.4165 - mean_squared_error: 0.9388 - rmse: 0.8685 -
mean_absolute_percentage_error: 187.5936

Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.9098 -
mean_absolute_error: 0.4063 - mean_squared_error: 0.9088 - rmse: 0.8192 -
mean_absolute_percentage_error: 195.2881

Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.8916 -
mean_absolute_error: 0.3974 - mean_squared_error: 0.8906 - rmse: 0.8313 -
mean_absolute_percentage_error: 204.6326

Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8749 -
mean_absolute_error: 0.3904 - mean_squared_error: 0.8737 - rmse: 0.7974 -
mean_absolute_percentage_error: 214.6150

Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.8566 -
mean_absolute_error: 0.3832 - mean_squared_error: 0.8554 - rmse: 0.7997 -
mean_absolute_percentage_error: 224.8379

Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8397 -
mean_absolute_error: 0.3719 - mean_squared_error: 0.8384 - rmse: 0.7275 -
mean_absolute_percentage_error: 229.1454

Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.8259 -
mean_absolute_error: 0.3581 - mean_squared_error: 0.8246 - rmse: 0.7158 -
mean_absolute_percentage_error: 224.9297

Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8118 -
mean_absolute_error: 0.3470 - mean_squared_error: 0.8104 - rmse: 0.7771 -
mean_absolute_percentage_error: 223.3988

Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.8007 -
mean_absolute_error: 0.3412 - mean_squared_error: 0.7993 - rmse: 0.7728 -
mean_absolute_percentage_error: 224.2829

Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.7932 -
mean_absolute_error: 0.3370 - mean_squared_error: 0.7918 - rmse: 0.7592 -
mean_absolute_percentage_error: 226.1893

Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7859 -
mean_absolute_error: 0.3339 - mean_squared_error: 0.7844 - rmse: 0.7830 -
mean_absolute_percentage_error: 226.7368

Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.7796 -
mean_absolute_error: 0.3330 - mean_squared_error: 0.7781 - rmse: 0.7513 -
mean_absolute_percentage_error: 227.8779

Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7738 -
mean_absolute_error: 0.3325 - mean_squared_error: 0.7723 - rmse: 0.7762 -
mean_absolute_percentage_error: 229.2242

Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7705 -
mean_absolute_error: 0.3342 - mean_squared_error: 0.7689 - rmse: 0.7495 -
mean_absolute_percentage_error: 231.6209

Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7654 -
mean_absolute_error: 0.3364 - mean_squared_error: 0.7638 - rmse: 0.7061 -
mean_absolute_percentage_error: 236.4764

Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7612 -
mean_absolute_error: 0.3348 - mean_squared_error: 0.7596 - rmse: 0.7167 -
mean_absolute_percentage_error: 233.7733

Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7586 -
mean_absolute_error: 0.3362 - mean_squared_error: 0.7569 - rmse: 0.7448 -
mean_absolute_percentage_error: 235.8757

Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7543 -
mean_absolute_error: 0.3339 - mean_squared_error: 0.7527 - rmse: 0.7430 -
mean_absolute_percentage_error: 233.0006

Epoch 30/50
10/10 [=====] - 0s 4ms/step - loss: 0.7516 -
mean_absolute_error: 0.3319 - mean_squared_error: 0.7500 - rmse: 0.7137 -
mean_absolute_percentage_error: 230.1730

Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7488 -
mean_absolute_error: 0.3311 - mean_squared_error: 0.7471 - rmse: 0.7228 -
mean_absolute_percentage_error: 230.4380

Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7483 -
mean_absolute_error: 0.3329 - mean_squared_error: 0.7466 - rmse: 0.7123 -
mean_absolute_percentage_error: 233.2934

Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7439 -
mean_absolute_error: 0.3327 - mean_squared_error: 0.7422 - rmse: 0.7253 -
mean_absolute_percentage_error: 234.1749

Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7421 -
mean_absolute_error: 0.3308 - mean_squared_error: 0.7404 - rmse: 0.7316 -
mean_absolute_percentage_error: 232.1220

Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7402 -
mean_absolute_error: 0.3297 - mean_squared_error: 0.7385 - rmse: 0.7348 -
mean_absolute_percentage_error: 230.7583

Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.7380 -
mean_absolute_error: 0.3287 - mean_squared_error: 0.7362 - rmse: 0.7376 -
mean_absolute_percentage_error: 230.4467

Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.7367 -
mean_absolute_error: 0.3256 - mean_squared_error: 0.7350 - rmse: 0.7479 -
mean_absolute_percentage_error: 225.9764

Epoch 38/50
10/10 [=====] - 0s 3ms/step - loss: 0.7348 -
mean_absolute_error: 0.3247 - mean_squared_error: 0.7331 - rmse: 0.7150 -
mean_absolute_percentage_error: 225.1891

Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.7337 -
mean_absolute_error: 0.3256 - mean_squared_error: 0.7319 - rmse: 0.7160 -
mean_absolute_percentage_error: 226.8813

Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.7325 -
mean_absolute_error: 0.3252 - mean_squared_error: 0.7307 - rmse: 0.7224 -
mean_absolute_percentage_error: 226.5142

Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7312 -
mean_absolute_error: 0.3229 - mean_squared_error: 0.7295 - rmse: 0.7267 -
mean_absolute_percentage_error: 223.6651

Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7302 -
mean_absolute_error: 0.3207 - mean_squared_error: 0.7285 - rmse: 0.6824 -
mean_absolute_percentage_error: 221.1169

Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.7317 -
mean_absolute_error: 0.3257 - mean_squared_error: 0.7299 - rmse: 0.7306 -
mean_absolute_percentage_error: 227.7177

Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7294 -
mean_absolute_error: 0.3236 - mean_squared_error: 0.7276 - rmse: 0.7037 -
mean_absolute_percentage_error: 224.5705

Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7268 -
mean_absolute_error: 0.3215 - mean_squared_error: 0.7251 - rmse: 0.7420 -
mean_absolute_percentage_error: 223.2701

```

Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.7255 -
mean_absolute_error: 0.3200 - mean_squared_error: 0.7237 - rmse: 0.7257 -
mean_absolute_percentage_error: 220.9777
Epoch 47/50
10/10 [=====] - 0s 4ms/step - loss: 0.7243 -
mean_absolute_error: 0.3203 - mean_squared_error: 0.7225 - rmse: 0.7277 -
mean_absolute_percentage_error: 220.7749
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7237 -
mean_absolute_error: 0.3200 - mean_squared_error: 0.7219 - rmse: 0.7015 -
mean_absolute_percentage_error: 220.4368
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.7234 -
mean_absolute_error: 0.3213 - mean_squared_error: 0.7216 - rmse: 0.7320 -
mean_absolute_percentage_error: 222.0146
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.7219 -
mean_absolute_error: 0.3209 - mean_squared_error: 0.7201 - rmse: 0.6875 -
mean_absolute_percentage_error: 220.7458
5/5 [=====] - 0s 2ms/step - loss: 0.2416 -
mean_absolute_error: 0.2884 - mean_squared_error: 0.2398 - rmse: 0.4747 -
mean_absolute_percentage_error: 223.7539
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L2
-----
Training for fold 3 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2935 -
mean_absolute_error: 0.5893 - mean_squared_error: 1.2932 - rmse: 1.0171 -
mean_absolute_percentage_error: 100.2946
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 1.2826 -
mean_absolute_error: 0.5850 - mean_squared_error: 1.2823 - rmse: 0.9778 -
mean_absolute_percentage_error: 99.4200
Epoch 3/50
10/10 [=====] - 0s 4ms/step - loss: 1.2706 -
mean_absolute_error: 0.5800 - mean_squared_error: 1.2703 - rmse: 1.0031 -
mean_absolute_percentage_error: 101.1590
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.2522 -
mean_absolute_error: 0.5727 - mean_squared_error: 1.2519 - rmse: 0.9714 -
mean_absolute_percentage_error: 103.4899
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.2309 -
mean_absolute_error: 0.5624 - mean_squared_error: 1.2306 - rmse: 0.9520 -
mean_absolute_percentage_error: 107.9568
Epoch 6/50

```

10/10 [=====] - 0s 3ms/step - loss: 1.2036 -
mean_absolute_error: 0.5484 - mean_squared_error: 1.2032 - rmse: 0.9041 -
mean_absolute_percentage_error: 113.5238
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.1651 -
mean_absolute_error: 0.5286 - mean_squared_error: 1.1646 - rmse: 0.9527 -
mean_absolute_percentage_error: 121.8006
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.1242 -
mean_absolute_error: 0.5046 - mean_squared_error: 1.1236 - rmse: 0.8696 -
mean_absolute_percentage_error: 126.8469
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0712 -
mean_absolute_error: 0.4773 - mean_squared_error: 1.0705 - rmse: 0.8337 -
mean_absolute_percentage_error: 135.1087
Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 1.0326 -
mean_absolute_error: 0.4525 - mean_squared_error: 1.0318 - rmse: 0.8716 -
mean_absolute_percentage_error: 147.3521
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9933 -
mean_absolute_error: 0.4338 - mean_squared_error: 0.9924 - rmse: 0.8528 -
mean_absolute_percentage_error: 165.4087
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.9589 -
mean_absolute_error: 0.4216 - mean_squared_error: 0.9578 - rmse: 0.8250 -
mean_absolute_percentage_error: 181.9143
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.9266 -
mean_absolute_error: 0.4117 - mean_squared_error: 0.9255 - rmse: 0.8147 -
mean_absolute_percentage_error: 195.4667
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.9067 -
mean_absolute_error: 0.4048 - mean_squared_error: 0.9055 - rmse: 0.8261 -
mean_absolute_percentage_error: 210.2791
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.8891 -
mean_absolute_error: 0.4006 - mean_squared_error: 0.8877 - rmse: 0.8138 -
mean_absolute_percentage_error: 220.9968
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8748 -
mean_absolute_error: 0.3951 - mean_squared_error: 0.8734 - rmse: 0.8172 -
mean_absolute_percentage_error: 233.0549
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.8628 -
mean_absolute_error: 0.3887 - mean_squared_error: 0.8614 - rmse: 0.7721 -
mean_absolute_percentage_error: 239.6859
Epoch 18/50

10/10 [=====] - 0s 3ms/step - loss: 0.8513 -
mean_absolute_error: 0.3790 - mean_squared_error: 0.8498 - rmse: 0.7758 -
mean_absolute_percentage_error: 239.2879
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8421 -
mean_absolute_error: 0.3713 - mean_squared_error: 0.8406 - rmse: 0.7855 -
mean_absolute_percentage_error: 240.9708
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.8302 -
mean_absolute_error: 0.3630 - mean_squared_error: 0.8287 - rmse: 0.7806 -
mean_absolute_percentage_error: 240.9637
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.8205 -
mean_absolute_error: 0.3529 - mean_squared_error: 0.8190 - rmse: 0.7473 -
mean_absolute_percentage_error: 237.0906
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.8104 -
mean_absolute_error: 0.3477 - mean_squared_error: 0.8088 - rmse: 0.7274 -
mean_absolute_percentage_error: 237.2727
Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.8018 -
mean_absolute_error: 0.3410 - mean_squared_error: 0.8002 - rmse: 0.7618 -
mean_absolute_percentage_error: 233.8384
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.7932 -
mean_absolute_error: 0.3368 - mean_squared_error: 0.7915 - rmse: 0.7587 -
mean_absolute_percentage_error: 232.0982
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.7860 -
mean_absolute_error: 0.3361 - mean_squared_error: 0.7842 - rmse: 0.7933 -
mean_absolute_percentage_error: 234.4098
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7796 -
mean_absolute_error: 0.3362 - mean_squared_error: 0.7777 - rmse: 0.7193 -
mean_absolute_percentage_error: 235.8225
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7727 -
mean_absolute_error: 0.3317 - mean_squared_error: 0.7709 - rmse: 0.7315 -
mean_absolute_percentage_error: 232.0109
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7676 -
mean_absolute_error: 0.3320 - mean_squared_error: 0.7657 - rmse: 0.7402 -
mean_absolute_percentage_error: 233.8026
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7634 -
mean_absolute_error: 0.3325 - mean_squared_error: 0.7615 - rmse: 0.7388 -
mean_absolute_percentage_error: 235.4005
Epoch 30/50

10/10 [=====] - 0s 3ms/step - loss: 0.7609 -
mean_absolute_error: 0.3320 - mean_squared_error: 0.7590 - rmse: 0.7051 -
mean_absolute_percentage_error: 234.1811
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7578 -
mean_absolute_error: 0.3293 - mean_squared_error: 0.7558 - rmse: 0.6828 -
mean_absolute_percentage_error: 231.1951
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.7567 -
mean_absolute_error: 0.3312 - mean_squared_error: 0.7548 - rmse: 0.6948 -
mean_absolute_percentage_error: 235.4682
Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.7517 -
mean_absolute_error: 0.3312 - mean_squared_error: 0.7496 - rmse: 0.7240 -
mean_absolute_percentage_error: 236.7418
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.7503 -
mean_absolute_error: 0.3302 - mean_squared_error: 0.7483 - rmse: 0.7528 -
mean_absolute_percentage_error: 237.0137
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7481 -
mean_absolute_error: 0.3296 - mean_squared_error: 0.7460 - rmse: 0.7089 -
mean_absolute_percentage_error: 236.9097
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7465 -
mean_absolute_error: 0.3267 - mean_squared_error: 0.7445 - rmse: 0.7422 -
mean_absolute_percentage_error: 233.3219
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7451 -
mean_absolute_error: 0.3261 - mean_squared_error: 0.7430 - rmse: 0.7286 -
mean_absolute_percentage_error: 232.2074
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7434 -
mean_absolute_error: 0.3247 - mean_squared_error: 0.7413 - rmse: 0.6679 -
mean_absolute_percentage_error: 231.5082
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7418 -
mean_absolute_error: 0.3232 - mean_squared_error: 0.7397 - rmse: 0.7497 -
mean_absolute_percentage_error: 229.0670
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7413 -
mean_absolute_error: 0.3232 - mean_squared_error: 0.7392 - rmse: 0.7202 -
mean_absolute_percentage_error: 229.7315
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7403 -
mean_absolute_error: 0.3234 - mean_squared_error: 0.7382 - rmse: 0.7169 -
mean_absolute_percentage_error: 229.8814
Epoch 42/50

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10/10 [=====] - 0s 2ms/step - loss: 0.7388 -
mean_absolute_error: 0.3204 - mean_squared_error: 0.7367 - rmse: 0.7573 -
mean_absolute_percentage_error: 227.1069
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7378 -
mean_absolute_error: 0.3212 - mean_squared_error: 0.7357 - rmse: 0.7299 -
mean_absolute_percentage_error: 226.9300
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7371 -
mean_absolute_error: 0.3197 - mean_squared_error: 0.7350 - rmse: 0.7436 -
mean_absolute_percentage_error: 225.2007
Epoch 45/50
10/10 [=====] - 0s 3ms/step - loss: 0.7355 -
mean_absolute_error: 0.3192 - mean_squared_error: 0.7334 - rmse: 0.7387 -
mean_absolute_percentage_error: 225.1610
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7343 -
mean_absolute_error: 0.3188 - mean_squared_error: 0.7322 - rmse: 0.7196 -
mean_absolute_percentage_error: 224.1910
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7332 -
mean_absolute_error: 0.3188 - mean_squared_error: 0.7311 - rmse: 0.7461 -
mean_absolute_percentage_error: 223.7511
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7324 -
mean_absolute_error: 0.3183 - mean_squared_error: 0.7303 - rmse: 0.7102 -
mean_absolute_percentage_error: 222.7966
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7341 -
mean_absolute_error: 0.3219 - mean_squared_error: 0.7320 - rmse: 0.7152 -
mean_absolute_percentage_error: 226.6920
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.7309 -
mean_absolute_error: 0.3229 - mean_squared_error: 0.7288 - rmse: 0.7019 -
mean_absolute_percentage_error: 228.2464
5/5 [=====] - 0s 2ms/step - loss: 0.2499 -
mean_absolute_error: 0.2944 - mean_squared_error: 0.2478 - rmse: 0.4830 -
mean_absolute_percentage_error: 222.0837
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L2
-----
Training for fold 4 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.1517 -
mean_absolute_error: 0.5644 - mean_squared_error: 1.1515 - rmse: 0.9222 -
mean_absolute_percentage_error: 101.3262
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 1.1344 -

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mean_absolute_error: 0.5566 - mean_squared_error: 1.1342 - rmse: 0.9557 -
mean_absolute_percentage_error: 99.4090
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.1185 -
mean_absolute_error: 0.5475 - mean_squared_error: 1.1182 - rmse: 0.9197 -
mean_absolute_percentage_error: 100.3042
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.0961 -
mean_absolute_error: 0.5348 - mean_squared_error: 1.0958 - rmse: 0.9264 -
mean_absolute_percentage_error: 100.7948
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.0732 -
mean_absolute_error: 0.5200 - mean_squared_error: 1.0729 - rmse: 0.9214 -
mean_absolute_percentage_error: 103.6274
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.0436 -
mean_absolute_error: 0.4998 - mean_squared_error: 1.0432 - rmse: 0.8910 -
mean_absolute_percentage_error: 104.8179
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.0166 -
mean_absolute_error: 0.4779 - mean_squared_error: 1.0161 - rmse: 0.8026 -
mean_absolute_percentage_error: 110.0785
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 0.9829 -
mean_absolute_error: 0.4527 - mean_squared_error: 0.9824 - rmse: 0.8142 -
mean_absolute_percentage_error: 113.6414
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 0.9538 -
mean_absolute_error: 0.4273 - mean_squared_error: 0.9532 - rmse: 0.8476 -
mean_absolute_percentage_error: 115.3062
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.9240 -
mean_absolute_error: 0.4068 - mean_squared_error: 0.9233 - rmse: 0.8196 -
mean_absolute_percentage_error: 121.1199
Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.9032 -
mean_absolute_error: 0.3908 - mean_squared_error: 0.9025 - rmse: 0.7647 -
mean_absolute_percentage_error: 133.7064
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.8772 -
mean_absolute_error: 0.3781 - mean_squared_error: 0.8763 - rmse: 0.7439 -
mean_absolute_percentage_error: 143.9364
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.8534 -
mean_absolute_error: 0.3680 - mean_squared_error: 0.8525 - rmse: 0.7835 -
mean_absolute_percentage_error: 151.2080
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.8333 -

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mean_absolute_error: 0.3590 - mean_squared_error: 0.8324 - rmse: 0.7157 -
mean_absolute_percentage_error: 160.2087
Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8159 -
mean_absolute_error: 0.3505 - mean_squared_error: 0.8149 - rmse: 0.7538 -
mean_absolute_percentage_error: 167.9903
Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.8011 -
mean_absolute_error: 0.3428 - mean_squared_error: 0.8001 - rmse: 0.7615 -
mean_absolute_percentage_error: 176.3309
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.7840 -
mean_absolute_error: 0.3318 - mean_squared_error: 0.7829 - rmse: 0.7172 -
mean_absolute_percentage_error: 183.7682
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.7687 -
mean_absolute_error: 0.3209 - mean_squared_error: 0.7675 - rmse: 0.6925 -
mean_absolute_percentage_error: 187.4153
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.7557 -
mean_absolute_error: 0.3123 - mean_squared_error: 0.7545 - rmse: 0.7332 -
mean_absolute_percentage_error: 188.9163
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.7432 -
mean_absolute_error: 0.3065 - mean_squared_error: 0.7419 - rmse: 0.7160 -
mean_absolute_percentage_error: 194.5597
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.7331 -
mean_absolute_error: 0.3006 - mean_squared_error: 0.7318 - rmse: 0.6593 -
mean_absolute_percentage_error: 195.6085
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7239 -
mean_absolute_error: 0.2983 - mean_squared_error: 0.7226 - rmse: 0.6844 -
mean_absolute_percentage_error: 201.0869
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7147 -
mean_absolute_error: 0.2977 - mean_squared_error: 0.7133 - rmse: 0.6796 -
mean_absolute_percentage_error: 204.7946
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.7072 -
mean_absolute_error: 0.2963 - mean_squared_error: 0.7058 - rmse: 0.6226 -
mean_absolute_percentage_error: 206.7287
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.7019 -
mean_absolute_error: 0.2952 - mean_squared_error: 0.7004 - rmse: 0.6236 -
mean_absolute_percentage_error: 210.3070
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.6957 -

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mean_absolute_error: 0.2954 - mean_squared_error: 0.6942 - rmse: 0.6164 -
mean_absolute_percentage_error: 213.2121
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.6909 -
mean_absolute_error: 0.2931 - mean_squared_error: 0.6894 - rmse: 0.6545 -
mean_absolute_percentage_error: 212.9198
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.6867 -
mean_absolute_error: 0.2917 - mean_squared_error: 0.6851 - rmse: 0.6648 -
mean_absolute_percentage_error: 213.5488
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.6837 -
mean_absolute_error: 0.2920 - mean_squared_error: 0.6821 - rmse: 0.6195 -
mean_absolute_percentage_error: 215.5517
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.6799 -
mean_absolute_error: 0.2913 - mean_squared_error: 0.6783 - rmse: 0.6917 -
mean_absolute_percentage_error: 216.6691
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.6791 -
mean_absolute_error: 0.2934 - mean_squared_error: 0.6774 - rmse: 0.6124 -
mean_absolute_percentage_error: 219.3418
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.6747 -
mean_absolute_error: 0.2919 - mean_squared_error: 0.6730 - rmse: 0.6635 -
mean_absolute_percentage_error: 219.2814
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.6729 -
mean_absolute_error: 0.2910 - mean_squared_error: 0.6712 - rmse: 0.6231 -
mean_absolute_percentage_error: 218.1423
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.6713 -
mean_absolute_error: 0.2920 - mean_squared_error: 0.6696 - rmse: 0.6734 -
mean_absolute_percentage_error: 220.1290
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.6687 -
mean_absolute_error: 0.2896 - mean_squared_error: 0.6670 - rmse: 0.6243 -
mean_absolute_percentage_error: 218.1244
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.6676 -
mean_absolute_error: 0.2889 - mean_squared_error: 0.6659 - rmse: 0.6804 -
mean_absolute_percentage_error: 216.8241
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.6661 -
mean_absolute_error: 0.2904 - mean_squared_error: 0.6644 - rmse: 0.6667 -
mean_absolute_percentage_error: 219.4558
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.6641 -

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mean_absolute_error: 0.2887 - mean_squared_error: 0.6624 - rmse: 0.5905 -
mean_absolute_percentage_error: 217.3041
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.6632 -
mean_absolute_error: 0.2888 - mean_squared_error: 0.6615 - rmse: 0.6206 -
mean_absolute_percentage_error: 218.2352
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.6607 -
mean_absolute_error: 0.2874 - mean_squared_error: 0.6590 - rmse: 0.6459 -
mean_absolute_percentage_error: 216.2251
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.6598 -
mean_absolute_error: 0.2861 - mean_squared_error: 0.6581 - rmse: 0.6633 -
mean_absolute_percentage_error: 214.5472
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.6584 -
mean_absolute_error: 0.2855 - mean_squared_error: 0.6567 - rmse: 0.6168 -
mean_absolute_percentage_error: 213.7056
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.6580 -
mean_absolute_error: 0.2839 - mean_squared_error: 0.6563 - rmse: 0.6483 -
mean_absolute_percentage_error: 211.2414
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.6600 -
mean_absolute_error: 0.2879 - mean_squared_error: 0.6582 - rmse: 0.6185 -
mean_absolute_percentage_error: 215.5621
Epoch 45/50
10/10 [=====] - 0s 3ms/step - loss: 0.6570 -
mean_absolute_error: 0.2895 - mean_squared_error: 0.6553 - rmse: 0.6568 -
mean_absolute_percentage_error: 219.0235
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.6547 -
mean_absolute_error: 0.2864 - mean_squared_error: 0.6529 - rmse: 0.6322 -
mean_absolute_percentage_error: 214.2481
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.6536 -
mean_absolute_error: 0.2843 - mean_squared_error: 0.6518 - rmse: 0.6650 -
mean_absolute_percentage_error: 209.4201
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.6520 -
mean_absolute_error: 0.2839 - mean_squared_error: 0.6502 - rmse: 0.6295 -
mean_absolute_percentage_error: 208.4286
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.6514 -
mean_absolute_error: 0.2829 - mean_squared_error: 0.6497 - rmse: 0.6625 -
mean_absolute_percentage_error: 206.3392
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.6506 -

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mean_absolute_error: 0.2839 - mean_squared_error: 0.6488 - rmse: 0.6722 -
mean_absolute_percentage_error: 207.6644
5/5 [=====] - 0s 2ms/step - loss: 0.2194 -
mean_absolute_error: 0.2722 - mean_squared_error: 0.2176 - rmse: 0.4516 -
mean_absolute_percentage_error: 192.1111
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L2
-----
Training for fold 5 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2449 -
mean_absolute_error: 0.5722 - mean_squared_error: 1.2447 - rmse: 1.0105 -
mean_absolute_percentage_error: 99.2401
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 1.2269 -
mean_absolute_error: 0.5605 - mean_squared_error: 1.2267 - rmse: 1.0164 -
mean_absolute_percentage_error: 98.0093
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.2055 -
mean_absolute_error: 0.5451 - mean_squared_error: 1.2052 - rmse: 0.9743 -
mean_absolute_percentage_error: 96.0662
Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.1790 -
mean_absolute_error: 0.5252 - mean_squared_error: 1.1787 - rmse: 0.9454 -
mean_absolute_percentage_error: 93.9025
Epoch 5/50
10/10 [=====] - 0s 4ms/step - loss: 1.1530 -
mean_absolute_error: 0.5029 - mean_squared_error: 1.1526 - rmse: 0.9308 -
mean_absolute_percentage_error: 93.3778
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1169 -
mean_absolute_error: 0.4773 - mean_squared_error: 1.1165 - rmse: 0.9344 -
mean_absolute_percentage_error: 91.5966
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.0855 -
mean_absolute_error: 0.4532 - mean_squared_error: 1.0849 - rmse: 0.8730 -
mean_absolute_percentage_error: 93.4329
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0518 -
mean_absolute_error: 0.4357 - mean_squared_error: 1.0512 - rmse: 0.8385 -
mean_absolute_percentage_error: 97.9283
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0208 -
mean_absolute_error: 0.4208 - mean_squared_error: 1.0200 - rmse: 0.8641 -
mean_absolute_percentage_error: 101.3267
Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.9888 -
mean_absolute_error: 0.4096 - mean_squared_error: 0.9880 - rmse: 0.8513 -

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mean_absolute_percentage_error: 107.2548
Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.9597 -
mean_absolute_error: 0.4000 - mean_squared_error: 0.9588 - rmse: 0.8038 -
mean_absolute_percentage_error: 115.2384
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.9356 -
mean_absolute_error: 0.3917 - mean_squared_error: 0.9347 - rmse: 0.8127 -
mean_absolute_percentage_error: 122.6810
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.9125 -
mean_absolute_error: 0.3840 - mean_squared_error: 0.9115 - rmse: 0.7950 -
mean_absolute_percentage_error: 128.8200
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.8883 -
mean_absolute_error: 0.3746 - mean_squared_error: 0.8872 - rmse: 0.8201 -
mean_absolute_percentage_error: 134.1603
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.8727 -
mean_absolute_error: 0.3649 - mean_squared_error: 0.8715 - rmse: 0.7490 -
mean_absolute_percentage_error: 137.8116
Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.8532 -
mean_absolute_error: 0.3556 - mean_squared_error: 0.8520 - rmse: 0.8010 -
mean_absolute_percentage_error: 139.5881
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8370 -
mean_absolute_error: 0.3470 - mean_squared_error: 0.8357 - rmse: 0.7493 -
mean_absolute_percentage_error: 140.4387
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.8231 -
mean_absolute_error: 0.3387 - mean_squared_error: 0.8217 - rmse: 0.7688 -
mean_absolute_percentage_error: 139.1556
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8094 -
mean_absolute_error: 0.3318 - mean_squared_error: 0.8080 - rmse: 0.7282 -
mean_absolute_percentage_error: 138.1808
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.7977 -
mean_absolute_error: 0.3272 - mean_squared_error: 0.7963 - rmse: 0.7551 -
mean_absolute_percentage_error: 137.9166
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.7858 -
mean_absolute_error: 0.3234 - mean_squared_error: 0.7844 - rmse: 0.7349 -
mean_absolute_percentage_error: 136.7150
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7786 -
mean_absolute_error: 0.3201 - mean_squared_error: 0.7771 - rmse: 0.7209 -

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mean_absolute_percentage_error: 133.8784
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7722 -
mean_absolute_error: 0.3210 - mean_squared_error: 0.7706 - rmse: 0.7456 -
mean_absolute_percentage_error: 135.6380
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.7667 -
mean_absolute_error: 0.3226 - mean_squared_error: 0.7651 - rmse: 0.7545 -
mean_absolute_percentage_error: 136.7207
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.7627 -
mean_absolute_error: 0.3265 - mean_squared_error: 0.7611 - rmse: 0.7259 -
mean_absolute_percentage_error: 140.7106
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7570 -
mean_absolute_error: 0.3269 - mean_squared_error: 0.7554 - rmse: 0.7163 -
mean_absolute_percentage_error: 141.0190
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7533 -
mean_absolute_error: 0.3262 - mean_squared_error: 0.7517 - rmse: 0.7370 -
mean_absolute_percentage_error: 140.2608
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7504 -
mean_absolute_error: 0.3251 - mean_squared_error: 0.7487 - rmse: 0.7003 -
mean_absolute_percentage_error: 139.1909
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7467 -
mean_absolute_error: 0.3235 - mean_squared_error: 0.7450 - rmse: 0.6801 -
mean_absolute_percentage_error: 138.2392
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7435 -
mean_absolute_error: 0.3248 - mean_squared_error: 0.7418 - rmse: 0.7587 -
mean_absolute_percentage_error: 139.4905
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7404 -
mean_absolute_error: 0.3244 - mean_squared_error: 0.7387 - rmse: 0.7415 -
mean_absolute_percentage_error: 139.4089
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7384 -
mean_absolute_error: 0.3225 - mean_squared_error: 0.7367 - rmse: 0.7385 -
mean_absolute_percentage_error: 137.7090
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7362 -
mean_absolute_error: 0.3209 - mean_squared_error: 0.7344 - rmse: 0.7150 -
mean_absolute_percentage_error: 137.0103
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7332 -
mean_absolute_error: 0.3207 - mean_squared_error: 0.7315 - rmse: 0.7411 -

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mean_absolute_percentage_error: 137.1281
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7320 -
mean_absolute_error: 0.3202 - mean_squared_error: 0.7303 - rmse: 0.6631 -
mean_absolute_percentage_error: 136.9340
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.7311 -
mean_absolute_error: 0.3176 - mean_squared_error: 0.7294 - rmse: 0.7075 -
mean_absolute_percentage_error: 134.7021
Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.7289 -
mean_absolute_error: 0.3181 - mean_squared_error: 0.7271 - rmse: 0.7107 -
mean_absolute_percentage_error: 135.6013
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7280 -
mean_absolute_error: 0.3193 - mean_squared_error: 0.7262 - rmse: 0.6961 -
mean_absolute_percentage_error: 137.1353
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7252 -
mean_absolute_error: 0.3185 - mean_squared_error: 0.7234 - rmse: 0.7109 -
mean_absolute_percentage_error: 136.4408
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7237 -
mean_absolute_error: 0.3160 - mean_squared_error: 0.7219 - rmse: 0.7426 -
mean_absolute_percentage_error: 135.0375
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7233 -
mean_absolute_error: 0.3133 - mean_squared_error: 0.7215 - rmse: 0.7197 -
mean_absolute_percentage_error: 133.6863
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7250 -
mean_absolute_error: 0.3162 - mean_squared_error: 0.7232 - rmse: 0.7487 -
mean_absolute_percentage_error: 135.1223
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7207 -
mean_absolute_error: 0.3167 - mean_squared_error: 0.7189 - rmse: 0.7046 -
mean_absolute_percentage_error: 136.1419
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.7191 -
mean_absolute_error: 0.3148 - mean_squared_error: 0.7173 - rmse: 0.7211 -
mean_absolute_percentage_error: 134.8091
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7182 -
mean_absolute_error: 0.3128 - mean_squared_error: 0.7164 - rmse: 0.6991 -
mean_absolute_percentage_error: 133.1367
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7169 -
mean_absolute_error: 0.3110 - mean_squared_error: 0.7151 - rmse: 0.7033 -

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mean_absolute_percentage_error: 132.6891
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.7161 -
mean_absolute_error: 0.3112 - mean_squared_error: 0.7142 - rmse: 0.6367 -
mean_absolute_percentage_error: 132.2823
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7157 -
mean_absolute_error: 0.3114 - mean_squared_error: 0.7138 - rmse: 0.6937 -
mean_absolute_percentage_error: 132.2309
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7139 -
mean_absolute_error: 0.3109 - mean_squared_error: 0.7120 - rmse: 0.7339 -
mean_absolute_percentage_error: 131.7298
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.7135 -
mean_absolute_error: 0.3124 - mean_squared_error: 0.7117 - rmse: 0.7356 -
mean_absolute_percentage_error: 133.2112
5/5 [=====] - 0s 2ms/step - loss: 0.2441 -
mean_absolute_error: 0.2947 - mean_squared_error: 0.2422 - rmse: 0.4764 -
mean_absolute_percentage_error: 219.8539
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L2
-----
Training for fold 6 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.1138 -
mean_absolute_error: 0.5694 - mean_squared_error: 1.1136 - rmse: 0.8973 -
mean_absolute_percentage_error: 100.0100
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.0990 -
mean_absolute_error: 0.5596 - mean_squared_error: 1.0987 - rmse: 0.9389 -
mean_absolute_percentage_error: 99.6038
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.0835 -
mean_absolute_error: 0.5499 - mean_squared_error: 1.0833 - rmse: 0.9317 -
mean_absolute_percentage_error: 99.8993
Epoch 4/50
10/10 [=====] - 0s 5ms/step - loss: 1.0645 -
mean_absolute_error: 0.5387 - mean_squared_error: 1.0642 - rmse: 0.9241 -
mean_absolute_percentage_error: 101.7391
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.0395 -
mean_absolute_error: 0.5262 - mean_squared_error: 1.0392 - rmse: 0.8896 -
mean_absolute_percentage_error: 105.5478
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.0104 -
mean_absolute_error: 0.5108 - mean_squared_error: 1.0100 - rmse: 0.8639 -
mean_absolute_percentage_error: 111.1669

```


Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 0.9685 -
mean_absolute_error: 0.4890 - mean_squared_error: 0.9681 - rmse: 0.8728 -
mean_absolute_percentage_error: 114.8383

Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 0.9263 -
mean_absolute_error: 0.4618 - mean_squared_error: 0.9258 - rmse: 0.8615 -
mean_absolute_percentage_error: 122.4816

Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 0.8818 -
mean_absolute_error: 0.4307 - mean_squared_error: 0.8811 - rmse: 0.7804 -
mean_absolute_percentage_error: 134.2492

Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.8379 -
mean_absolute_error: 0.4022 - mean_squared_error: 0.8371 - rmse: 0.7828 -
mean_absolute_percentage_error: 145.5900

Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.8058 -
mean_absolute_error: 0.3812 - mean_squared_error: 0.8049 - rmse: 0.7633 -
mean_absolute_percentage_error: 158.1582

Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.7710 -
mean_absolute_error: 0.3661 - mean_squared_error: 0.7699 - rmse: 0.7206 -
mean_absolute_percentage_error: 173.2720

Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.7520 -
mean_absolute_error: 0.3582 - mean_squared_error: 0.7508 - rmse: 0.7305 -
mean_absolute_percentage_error: 190.2421

Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.7352 -
mean_absolute_error: 0.3526 - mean_squared_error: 0.7340 - rmse: 0.7090 -
mean_absolute_percentage_error: 202.8831

Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.7183 -
mean_absolute_error: 0.3431 - mean_squared_error: 0.7170 - rmse: 0.6705 -
mean_absolute_percentage_error: 209.8964

Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.7070 -
mean_absolute_error: 0.3352 - mean_squared_error: 0.7056 - rmse: 0.7031 -
mean_absolute_percentage_error: 213.5359

Epoch 17/50
10/10 [=====] - 0s 4ms/step - loss: 0.6981 -
mean_absolute_error: 0.3285 - mean_squared_error: 0.6967 - rmse: 0.6374 -
mean_absolute_percentage_error: 217.1811

Epoch 18/50
10/10 [=====] - 0s 4ms/step - loss: 0.6882 -
mean_absolute_error: 0.3211 - mean_squared_error: 0.6867 - rmse: 0.6288 -
mean_absolute_percentage_error: 216.4037

Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.6787 -
mean_absolute_error: 0.3161 - mean_squared_error: 0.6772 - rmse: 0.6679 -
mean_absolute_percentage_error: 218.9486
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.6680 -
mean_absolute_error: 0.3111 - mean_squared_error: 0.6664 - rmse: 0.6574 -
mean_absolute_percentage_error: 220.5478
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.6623 -
mean_absolute_error: 0.3093 - mean_squared_error: 0.6607 - rmse: 0.7089 -
mean_absolute_percentage_error: 223.6522
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.6546 -
mean_absolute_error: 0.3062 - mean_squared_error: 0.6529 - rmse: 0.6550 -
mean_absolute_percentage_error: 222.6953
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.6482 -
mean_absolute_error: 0.3024 - mean_squared_error: 0.6465 - rmse: 0.6441 -
mean_absolute_percentage_error: 222.6776
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.6437 -
mean_absolute_error: 0.2986 - mean_squared_error: 0.6419 - rmse: 0.6704 -
mean_absolute_percentage_error: 221.9753
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.6404 -
mean_absolute_error: 0.2981 - mean_squared_error: 0.6386 - rmse: 0.6675 -
mean_absolute_percentage_error: 223.6014
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.6376 -
mean_absolute_error: 0.2990 - mean_squared_error: 0.6358 - rmse: 0.6441 -
mean_absolute_percentage_error: 226.5365
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.6340 -
mean_absolute_error: 0.2980 - mean_squared_error: 0.6322 - rmse: 0.6826 -
mean_absolute_percentage_error: 226.5464
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.6318 -
mean_absolute_error: 0.2971 - mean_squared_error: 0.6300 - rmse: 0.6513 -
mean_absolute_percentage_error: 225.6596
Epoch 29/50
10/10 [=====] - 0s 4ms/step - loss: 0.6308 -
mean_absolute_error: 0.2986 - mean_squared_error: 0.6290 - rmse: 0.6802 -
mean_absolute_percentage_error: 227.6858
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.6283 -
mean_absolute_error: 0.2976 - mean_squared_error: 0.6264 - rmse: 0.6295 -
mean_absolute_percentage_error: 228.0882

Epoch 31/50
10/10 [=====] - 0s 4ms/step - loss: 0.6277 -
mean_absolute_error: 0.2946 - mean_squared_error: 0.6259 - rmse: 0.6596 -
mean_absolute_percentage_error: 223.1741

Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.6247 -
mean_absolute_error: 0.2927 - mean_squared_error: 0.6228 - rmse: 0.6114 -
mean_absolute_percentage_error: 221.1789

Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.6245 -
mean_absolute_error: 0.2951 - mean_squared_error: 0.6226 - rmse: 0.6787 -
mean_absolute_percentage_error: 223.6532

Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.6214 -
mean_absolute_error: 0.2933 - mean_squared_error: 0.6195 - rmse: 0.6237 -
mean_absolute_percentage_error: 223.2141

Epoch 35/50
10/10 [=====] - 0s 4ms/step - loss: 0.6204 -
mean_absolute_error: 0.2935 - mean_squared_error: 0.6185 - rmse: 0.6691 -
mean_absolute_percentage_error: 223.5518

Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.6189 -
mean_absolute_error: 0.2919 - mean_squared_error: 0.6170 - rmse: 0.6170 -
mean_absolute_percentage_error: 220.6119

Epoch 37/50
10/10 [=====] - 0s 6ms/step - loss: 0.6167 -
mean_absolute_error: 0.2904 - mean_squared_error: 0.6148 - rmse: 0.6301 -
mean_absolute_percentage_error: 218.9603

Epoch 38/50
10/10 [=====] - 0s 3ms/step - loss: 0.6178 -
mean_absolute_error: 0.2896 - mean_squared_error: 0.6159 - rmse: 0.6050 -
mean_absolute_percentage_error: 217.9295

Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.6150 -
mean_absolute_error: 0.2901 - mean_squared_error: 0.6131 - rmse: 0.6242 -
mean_absolute_percentage_error: 218.1238

Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.6141 -
mean_absolute_error: 0.2919 - mean_squared_error: 0.6122 - rmse: 0.6422 -
mean_absolute_percentage_error: 220.5697

Epoch 41/50
10/10 [=====] - 0s 4ms/step - loss: 0.6128 -
mean_absolute_error: 0.2914 - mean_squared_error: 0.6109 - rmse: 0.6423 -
mean_absolute_percentage_error: 219.2004

Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.6119 -
mean_absolute_error: 0.2906 - mean_squared_error: 0.6100 - rmse: 0.6606 -
mean_absolute_percentage_error: 218.4269

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Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.6107 -
mean_absolute_error: 0.2899 - mean_squared_error: 0.6088 - rmse: 0.6477 -
mean_absolute_percentage_error: 217.2603
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.6099 -
mean_absolute_error: 0.2890 - mean_squared_error: 0.6080 - rmse: 0.6589 -
mean_absolute_percentage_error: 216.0750
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.6092 -
mean_absolute_error: 0.2885 - mean_squared_error: 0.6073 - rmse: 0.6693 -
mean_absolute_percentage_error: 215.0005
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.6086 -
mean_absolute_error: 0.2889 - mean_squared_error: 0.6067 - rmse: 0.6698 -
mean_absolute_percentage_error: 215.6265
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.6085 -
mean_absolute_error: 0.2892 - mean_squared_error: 0.6066 - rmse: 0.6099 -
mean_absolute_percentage_error: 215.3609
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.6072 -
mean_absolute_error: 0.2879 - mean_squared_error: 0.6053 - rmse: 0.6517 -
mean_absolute_percentage_error: 213.1066
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.6074 -
mean_absolute_error: 0.2858 - mean_squared_error: 0.6055 - rmse: 0.6067 -
mean_absolute_percentage_error: 209.5671
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.6060 -
mean_absolute_error: 0.2841 - mean_squared_error: 0.6040 - rmse: 0.6159 -
mean_absolute_percentage_error: 207.6087
5/5 [=====] - 0s 2ms/step - loss: 0.2304 -
mean_absolute_error: 0.2781 - mean_squared_error: 0.2284 - rmse: 0.4642 -
mean_absolute_percentage_error: 203.5236
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L2
-----
Training for fold 7 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 0.6810 -
mean_absolute_error: 0.5029 - mean_squared_error: 0.6807 - rmse: 0.7431 -
mean_absolute_percentage_error: 96.8972
Epoch 2/50
10/10 [=====] - 0s 1ms/step - loss: 0.6675 -
mean_absolute_error: 0.4909 - mean_squared_error: 0.6672 - rmse: 0.7424 -
mean_absolute_percentage_error: 94.4324
Epoch 3/50

```

10/10 [=====] - 0s 2ms/step - loss: 0.6502 -
mean_absolute_error: 0.4761 - mean_squared_error: 0.6499 - rmse: 0.7463 -
mean_absolute_percentage_error: 92.9304
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 0.6296 -
mean_absolute_error: 0.4567 - mean_squared_error: 0.6292 - rmse: 0.7361 -
mean_absolute_percentage_error: 91.0817
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 0.6036 -
mean_absolute_error: 0.4338 - mean_squared_error: 0.6031 - rmse: 0.6997 -
mean_absolute_percentage_error: 93.3153
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 0.5760 -
mean_absolute_error: 0.4063 - mean_squared_error: 0.5755 - rmse: 0.6717 -
mean_absolute_percentage_error: 95.2662
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 0.5459 -
mean_absolute_error: 0.3766 - mean_squared_error: 0.5452 - rmse: 0.6537 -
mean_absolute_percentage_error: 97.5861
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 0.5193 -
mean_absolute_error: 0.3521 - mean_squared_error: 0.5185 - rmse: 0.6244 -
mean_absolute_percentage_error: 106.2721
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 0.4912 -
mean_absolute_error: 0.3317 - mean_squared_error: 0.4903 - rmse: 0.6323 -
mean_absolute_percentage_error: 118.0450
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.4678 -
mean_absolute_error: 0.3151 - mean_squared_error: 0.4669 - rmse: 0.5952 -
mean_absolute_percentage_error: 128.7186
Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.4452 -
mean_absolute_error: 0.3013 - mean_squared_error: 0.4442 - rmse: 0.5889 -
mean_absolute_percentage_error: 137.2500
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.4274 -
mean_absolute_error: 0.2902 - mean_squared_error: 0.4263 - rmse: 0.5773 -
mean_absolute_percentage_error: 149.8976
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.4114 -
mean_absolute_error: 0.2805 - mean_squared_error: 0.4102 - rmse: 0.5468 -
mean_absolute_percentage_error: 160.8128
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.3976 -
mean_absolute_error: 0.2712 - mean_squared_error: 0.3964 - rmse: 0.5132 -
mean_absolute_percentage_error: 168.4315
Epoch 15/50

10/10 [=====] - 0s 3ms/step - loss: 0.3863 -
mean_absolute_error: 0.2613 - mean_squared_error: 0.3850 - rmse: 0.5224 -
mean_absolute_percentage_error: 174.7095
Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.3751 -
mean_absolute_error: 0.2536 - mean_squared_error: 0.3737 - rmse: 0.5103 -
mean_absolute_percentage_error: 180.3056
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.3664 -
mean_absolute_error: 0.2467 - mean_squared_error: 0.3649 - rmse: 0.5198 -
mean_absolute_percentage_error: 183.4232
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.3598 -
mean_absolute_error: 0.2409 - mean_squared_error: 0.3583 - rmse: 0.5056 -
mean_absolute_percentage_error: 183.3251
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.3533 -
mean_absolute_error: 0.2375 - mean_squared_error: 0.3517 - rmse: 0.4999 -
mean_absolute_percentage_error: 184.9239
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.3496 -
mean_absolute_error: 0.2385 - mean_squared_error: 0.3481 - rmse: 0.4836 -
mean_absolute_percentage_error: 190.8002
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.3441 -
mean_absolute_error: 0.2360 - mean_squared_error: 0.3425 - rmse: 0.5085 -
mean_absolute_percentage_error: 191.7989
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.3418 -
mean_absolute_error: 0.2344 - mean_squared_error: 0.3402 - rmse: 0.4943 -
mean_absolute_percentage_error: 189.5606
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.3379 -
mean_absolute_error: 0.2330 - mean_squared_error: 0.3362 - rmse: 0.4913 -
mean_absolute_percentage_error: 190.3655
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.3359 -
mean_absolute_error: 0.2329 - mean_squared_error: 0.3343 - rmse: 0.4707 -
mean_absolute_percentage_error: 192.4262
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.3336 -
mean_absolute_error: 0.2327 - mean_squared_error: 0.3319 - rmse: 0.4951 -
mean_absolute_percentage_error: 192.8266
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.3325 -
mean_absolute_error: 0.2331 - mean_squared_error: 0.3308 - rmse: 0.4876 -
mean_absolute_percentage_error: 195.1275
Epoch 27/50

10/10 [=====] - 0s 2ms/step - loss: 0.3306 -
mean_absolute_error: 0.2338 - mean_squared_error: 0.3289 - rmse: 0.4355 -
mean_absolute_percentage_error: 198.7750
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.3277 -
mean_absolute_error: 0.2310 - mean_squared_error: 0.3260 - rmse: 0.4891 -
mean_absolute_percentage_error: 195.5522
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.3263 -
mean_absolute_error: 0.2287 - mean_squared_error: 0.3245 - rmse: 0.4878 -
mean_absolute_percentage_error: 191.5868
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.3249 -
mean_absolute_error: 0.2272 - mean_squared_error: 0.3231 - rmse: 0.4855 -
mean_absolute_percentage_error: 189.8767
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.3236 -
mean_absolute_error: 0.2261 - mean_squared_error: 0.3218 - rmse: 0.4857 -
mean_absolute_percentage_error: 188.9725
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.3234 -
mean_absolute_error: 0.2247 - mean_squared_error: 0.3216 - rmse: 0.4690 -
mean_absolute_percentage_error: 187.2311
Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.3217 -
mean_absolute_error: 0.2248 - mean_squared_error: 0.3200 - rmse: 0.4884 -
mean_absolute_percentage_error: 187.7986
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.3206 -
mean_absolute_error: 0.2246 - mean_squared_error: 0.3188 - rmse: 0.4860 -
mean_absolute_percentage_error: 188.8775
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.3202 -
mean_absolute_error: 0.2251 - mean_squared_error: 0.3184 - rmse: 0.4742 -
mean_absolute_percentage_error: 190.6876
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.3189 -
mean_absolute_error: 0.2247 - mean_squared_error: 0.3171 - rmse: 0.4570 -
mean_absolute_percentage_error: 190.3172
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.3179 -
mean_absolute_error: 0.2237 - mean_squared_error: 0.3161 - rmse: 0.4776 -
mean_absolute_percentage_error: 188.4128
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.3179 -
mean_absolute_error: 0.2216 - mean_squared_error: 0.3161 - rmse: 0.4730 -
mean_absolute_percentage_error: 185.7137
Epoch 39/50

10/10 [=====] - 0s 2ms/step - loss: 0.3172 -
mean_absolute_error: 0.2222 - mean_squared_error: 0.3154 - rmse: 0.4744 -
mean_absolute_percentage_error: 185.6103
Epoch 40/50

10/10 [=====] - 0s 3ms/step - loss: 0.3165 -
mean_absolute_error: 0.2217 - mean_squared_error: 0.3147 - rmse: 0.4494 -
mean_absolute_percentage_error: 184.9130
Epoch 41/50

10/10 [=====] - 0s 3ms/step - loss: 0.3156 -
mean_absolute_error: 0.2204 - mean_squared_error: 0.3138 - rmse: 0.4769 -
mean_absolute_percentage_error: 182.9907
Epoch 42/50

10/10 [=====] - 0s 2ms/step - loss: 0.3152 -
mean_absolute_error: 0.2212 - mean_squared_error: 0.3134 - rmse: 0.4736 -
mean_absolute_percentage_error: 185.2621
Epoch 43/50

10/10 [=====] - 0s 2ms/step - loss: 0.3141 -
mean_absolute_error: 0.2204 - mean_squared_error: 0.3123 - rmse: 0.4613 -
mean_absolute_percentage_error: 184.4648
Epoch 44/50

10/10 [=====] - 0s 2ms/step - loss: 0.3138 -
mean_absolute_error: 0.2199 - mean_squared_error: 0.3119 - rmse: 0.4481 -
mean_absolute_percentage_error: 183.4236
Epoch 45/50

10/10 [=====] - 0s 3ms/step - loss: 0.3131 -
mean_absolute_error: 0.2194 - mean_squared_error: 0.3112 - rmse: 0.4328 -
mean_absolute_percentage_error: 183.0461
Epoch 46/50

10/10 [=====] - 0s 2ms/step - loss: 0.3126 -
mean_absolute_error: 0.2195 - mean_squared_error: 0.3107 - rmse: 0.4490 -
mean_absolute_percentage_error: 183.3009
Epoch 47/50

10/10 [=====] - 0s 2ms/step - loss: 0.3119 -
mean_absolute_error: 0.2201 - mean_squared_error: 0.3101 - rmse: 0.4737 -
mean_absolute_percentage_error: 184.1802
Epoch 48/50

10/10 [=====] - 0s 2ms/step - loss: 0.3116 -
mean_absolute_error: 0.2199 - mean_squared_error: 0.3098 - rmse: 0.4501 -
mean_absolute_percentage_error: 184.4932
Epoch 49/50

10/10 [=====] - 0s 2ms/step - loss: 0.3110 -
mean_absolute_error: 0.2197 - mean_squared_error: 0.3092 - rmse: 0.4632 -
mean_absolute_percentage_error: 184.2389
Epoch 50/50

10/10 [=====] - 0s 2ms/step - loss: 0.3105 -
mean_absolute_error: 0.2190 - mean_squared_error: 0.3087 - rmse: 0.4710 -
mean_absolute_percentage_error: 183.3733
5/5 [=====] - 0s 2ms/step - loss: 0.2066 -


```

mean_absolute_error: 0.2507 - mean_squared_error: 0.2048 - rmse: 0.4359 -
mean_absolute_percentage_error: 183.2506
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L2
-----
Training for fold 8 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2806 -
mean_absolute_error: 0.5772 - mean_squared_error: 1.2804 - rmse: 1.0109 -
mean_absolute_percentage_error: 97.6607
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2602 -
mean_absolute_error: 0.5642 - mean_squared_error: 1.2600 - rmse: 0.9813 -
mean_absolute_percentage_error: 96.9655
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.2385 -
mean_absolute_error: 0.5494 - mean_squared_error: 1.2383 - rmse: 1.0129 -
mean_absolute_percentage_error: 96.6068
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.2134 -
mean_absolute_error: 0.5315 - mean_squared_error: 1.2131 - rmse: 0.9372 -
mean_absolute_percentage_error: 97.6945
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.1870 -
mean_absolute_error: 0.5113 - mean_squared_error: 1.1867 - rmse: 0.9448 -
mean_absolute_percentage_error: 99.0529
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1558 -
mean_absolute_error: 0.4867 - mean_squared_error: 1.1554 - rmse: 0.9813 -
mean_absolute_percentage_error: 99.0908
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.1242 -
mean_absolute_error: 0.4623 - mean_squared_error: 1.1237 - rmse: 0.9196 -
mean_absolute_percentage_error: 103.8043
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0933 -
mean_absolute_error: 0.4408 - mean_squared_error: 1.0928 - rmse: 0.8866 -
mean_absolute_percentage_error: 108.8833
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0610 -
mean_absolute_error: 0.4244 - mean_squared_error: 1.0603 - rmse: 0.9046 -
mean_absolute_percentage_error: 119.0386
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 1.0316 -
mean_absolute_error: 0.4116 - mean_squared_error: 1.0309 - rmse: 0.9001 -
mean_absolute_percentage_error: 130.1562
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 1.0002 -

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mean_absolute_error: 0.4000 - mean_squared_error: 0.9995 - rmse: 0.7917 -
mean_absolute_percentage_error: 140.0789
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.9737 -
mean_absolute_error: 0.3911 - mean_squared_error: 0.9729 - rmse: 0.8231 -
mean_absolute_percentage_error: 153.1989
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.9482 -
mean_absolute_error: 0.3834 - mean_squared_error: 0.9474 - rmse: 0.7836 -
mean_absolute_percentage_error: 163.9792
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.9253 -
mean_absolute_error: 0.3752 - mean_squared_error: 0.9244 - rmse: 0.8203 -
mean_absolute_percentage_error: 174.9414
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.9058 -
mean_absolute_error: 0.3677 - mean_squared_error: 0.9048 - rmse: 0.8378 -
mean_absolute_percentage_error: 186.4431
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8867 -
mean_absolute_error: 0.3619 - mean_squared_error: 0.8856 - rmse: 0.7819 -
mean_absolute_percentage_error: 195.8334
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8692 -
mean_absolute_error: 0.3551 - mean_squared_error: 0.8680 - rmse: 0.7879 -
mean_absolute_percentage_error: 203.1085
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.8544 -
mean_absolute_error: 0.3476 - mean_squared_error: 0.8532 - rmse: 0.7610 -
mean_absolute_percentage_error: 207.4619
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8409 -
mean_absolute_error: 0.3404 - mean_squared_error: 0.8396 - rmse: 0.7685 -
mean_absolute_percentage_error: 210.4571
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.8286 -
mean_absolute_error: 0.3375 - mean_squared_error: 0.8273 - rmse: 0.7537 -
mean_absolute_percentage_error: 216.4435
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.8179 -
mean_absolute_error: 0.3354 - mean_squared_error: 0.8165 - rmse: 0.7618 -
mean_absolute_percentage_error: 221.9695
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.8040 -
mean_absolute_error: 0.3304 - mean_squared_error: 0.8025 - rmse: 0.7490 -
mean_absolute_percentage_error: 220.8134
Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.7942 -

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mean_absolute_error: 0.3254 - mean_squared_error: 0.7927 - rmse: 0.6437 -
mean_absolute_percentage_error: 218.5080
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7862 -
mean_absolute_error: 0.3243 - mean_squared_error: 0.7846 - rmse: 0.7429 -
mean_absolute_percentage_error: 219.5523
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.7782 -
mean_absolute_error: 0.3253 - mean_squared_error: 0.7767 - rmse: 0.7184 -
mean_absolute_percentage_error: 226.1661
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7715 -
mean_absolute_error: 0.3253 - mean_squared_error: 0.7699 - rmse: 0.7373 -
mean_absolute_percentage_error: 227.6970
Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.7652 -
mean_absolute_error: 0.3255 - mean_squared_error: 0.7635 - rmse: 0.7510 -
mean_absolute_percentage_error: 230.7394
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7616 -
mean_absolute_error: 0.3240 - mean_squared_error: 0.7599 - rmse: 0.7366 -
mean_absolute_percentage_error: 230.9595
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7595 -
mean_absolute_error: 0.3260 - mean_squared_error: 0.7579 - rmse: 0.7448 -
mean_absolute_percentage_error: 234.7895
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.7555 -
mean_absolute_error: 0.3260 - mean_squared_error: 0.7538 - rmse: 0.7231 -
mean_absolute_percentage_error: 237.6891
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7527 -
mean_absolute_error: 0.3246 - mean_squared_error: 0.7510 - rmse: 0.7601 -
mean_absolute_percentage_error: 236.9289
Epoch 32/50
10/10 [=====] - 0s 4ms/step - loss: 0.7504 -
mean_absolute_error: 0.3234 - mean_squared_error: 0.7487 - rmse: 0.7153 -
mean_absolute_percentage_error: 237.0848
Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.7490 -
mean_absolute_error: 0.3240 - mean_squared_error: 0.7473 - rmse: 0.7288 -
mean_absolute_percentage_error: 238.8697
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.7464 -
mean_absolute_error: 0.3243 - mean_squared_error: 0.7446 - rmse: 0.7076 -
mean_absolute_percentage_error: 239.3186
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7447 -

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mean_absolute_error: 0.3234 - mean_squared_error: 0.7430 - rmse: 0.7377 -
mean_absolute_percentage_error: 238.5552
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7428 -
mean_absolute_error: 0.3220 - mean_squared_error: 0.7410 - rmse: 0.6967 -
mean_absolute_percentage_error: 236.8066
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7413 -
mean_absolute_error: 0.3212 - mean_squared_error: 0.7395 - rmse: 0.7350 -
mean_absolute_percentage_error: 236.0315
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7398 -
mean_absolute_error: 0.3199 - mean_squared_error: 0.7380 - rmse: 0.7187 -
mean_absolute_percentage_error: 234.6870
Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.7391 -
mean_absolute_error: 0.3218 - mean_squared_error: 0.7373 - rmse: 0.7380 -
mean_absolute_percentage_error: 237.4366
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7374 -
mean_absolute_error: 0.3220 - mean_squared_error: 0.7356 - rmse: 0.7094 -
mean_absolute_percentage_error: 237.2918
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7363 -
mean_absolute_error: 0.3218 - mean_squared_error: 0.7345 - rmse: 0.7432 -
mean_absolute_percentage_error: 236.4554
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7365 -
mean_absolute_error: 0.3226 - mean_squared_error: 0.7347 - rmse: 0.7195 -
mean_absolute_percentage_error: 236.4408
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.7342 -
mean_absolute_error: 0.3233 - mean_squared_error: 0.7324 - rmse: 0.7505 -
mean_absolute_percentage_error: 237.6416
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7336 -
mean_absolute_error: 0.3204 - mean_squared_error: 0.7317 - rmse: 0.7497 -
mean_absolute_percentage_error: 232.3434
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7322 -
mean_absolute_error: 0.3199 - mean_squared_error: 0.7304 - rmse: 0.6959 -
mean_absolute_percentage_error: 231.6675
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7331 -
mean_absolute_error: 0.3232 - mean_squared_error: 0.7312 - rmse: 0.7191 -
mean_absolute_percentage_error: 234.8019
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7303 -

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mean_absolute_error: 0.3209 - mean_squared_error: 0.7285 - rmse: 0.7388 -
mean_absolute_percentage_error: 232.2585
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.7304 -
mean_absolute_error: 0.3184 - mean_squared_error: 0.7286 - rmse: 0.7168 -
mean_absolute_percentage_error: 226.9410
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.7284 -
mean_absolute_error: 0.3186 - mean_squared_error: 0.7265 - rmse: 0.7092 -
mean_absolute_percentage_error: 227.6508
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.7278 -
mean_absolute_error: 0.3191 - mean_squared_error: 0.7260 - rmse: 0.7258 -
mean_absolute_percentage_error: 228.9413
5/5 [=====] - 1s 2ms/step - loss: 0.2355 -
mean_absolute_error: 0.2870 - mean_squared_error: 0.2336 - rmse: 0.4691 -
mean_absolute_percentage_error: 211.9676
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L2
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Training for fold 9 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.1901 -
mean_absolute_error: 0.5432 - mean_squared_error: 1.1899 - rmse: 0.9367 -
mean_absolute_percentage_error: 95.3154
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.1724 -
mean_absolute_error: 0.5263 - mean_squared_error: 1.1722 - rmse: 0.9625 -
mean_absolute_percentage_error: 91.2978
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.1516 -
mean_absolute_error: 0.5054 - mean_squared_error: 1.1513 - rmse: 0.9474 -
mean_absolute_percentage_error: 87.4737
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.1290 -
mean_absolute_error: 0.4807 - mean_squared_error: 1.1287 - rmse: 0.9344 -
mean_absolute_percentage_error: 84.1092
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1039 -
mean_absolute_error: 0.4539 - mean_squared_error: 1.1036 - rmse: 0.8816 -
mean_absolute_percentage_error: 84.1096
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.0782 -
mean_absolute_error: 0.4285 - mean_squared_error: 1.0778 - rmse: 0.9089 -
mean_absolute_percentage_error: 86.0838
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.0515 -
mean_absolute_error: 0.4090 - mean_squared_error: 1.0510 - rmse: 0.8545 -

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mean_absolute_percentage_error: 89.2470
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0256 -
mean_absolute_error: 0.3940 - mean_squared_error: 1.0251 - rmse: 0.8122 -
mean_absolute_percentage_error: 96.8727
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 0.9998 -
mean_absolute_error: 0.3799 - mean_squared_error: 0.9992 - rmse: 0.8076 -
mean_absolute_percentage_error: 105.2668
Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.9738 -
mean_absolute_error: 0.3657 - mean_squared_error: 0.9732 - rmse: 0.7876 -
mean_absolute_percentage_error: 113.0630
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9470 -
mean_absolute_error: 0.3508 - mean_squared_error: 0.9463 - rmse: 0.8422 -
mean_absolute_percentage_error: 119.5638
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.9193 -
mean_absolute_error: 0.3368 - mean_squared_error: 0.9185 - rmse: 0.7864 -
mean_absolute_percentage_error: 129.4665
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.8989 -
mean_absolute_error: 0.3270 - mean_squared_error: 0.8981 - rmse: 0.8145 -
mean_absolute_percentage_error: 141.4199
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.8717 -
mean_absolute_error: 0.3194 - mean_squared_error: 0.8707 - rmse: 0.7211 -
mean_absolute_percentage_error: 152.9012
Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8486 -
mean_absolute_error: 0.3104 - mean_squared_error: 0.8476 - rmse: 0.6573 -
mean_absolute_percentage_error: 161.2382
Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.8297 -
mean_absolute_error: 0.3055 - mean_squared_error: 0.8286 - rmse: 0.7842 -
mean_absolute_percentage_error: 170.8367
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8131 -
mean_absolute_error: 0.3027 - mean_squared_error: 0.8119 - rmse: 0.6494 -
mean_absolute_percentage_error: 182.4541
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.7953 -
mean_absolute_error: 0.2986 - mean_squared_error: 0.7940 - rmse: 0.6490 -
mean_absolute_percentage_error: 186.8145
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.7863 -
mean_absolute_error: 0.2978 - mean_squared_error: 0.7850 - rmse: 0.6670 -

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mean_absolute_percentage_error: 196.1210
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.7741 -
mean_absolute_error: 0.2994 - mean_squared_error: 0.7727 - rmse: 0.7455 -
mean_absolute_percentage_error: 203.7470
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.7672 -
mean_absolute_error: 0.3012 - mean_squared_error: 0.7657 - rmse: 0.7361 -
mean_absolute_percentage_error: 210.9981
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7576 -
mean_absolute_error: 0.3015 - mean_squared_error: 0.7562 - rmse: 0.7355 -
mean_absolute_percentage_error: 216.0048
Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.7523 -
mean_absolute_error: 0.3038 - mean_squared_error: 0.7508 - rmse: 0.7303 -
mean_absolute_percentage_error: 222.5883
Epoch 24/50
10/10 [=====] - 0s 4ms/step - loss: 0.7469 -
mean_absolute_error: 0.3052 - mean_squared_error: 0.7454 - rmse: 0.6863 -
mean_absolute_percentage_error: 226.5513
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.7412 -
mean_absolute_error: 0.3059 - mean_squared_error: 0.7396 - rmse: 0.7367 -
mean_absolute_percentage_error: 230.3600
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7373 -
mean_absolute_error: 0.3066 - mean_squared_error: 0.7357 - rmse: 0.6236 -
mean_absolute_percentage_error: 231.7356
Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.7338 -
mean_absolute_error: 0.3068 - mean_squared_error: 0.7322 - rmse: 0.6818 -
mean_absolute_percentage_error: 233.0363
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7316 -
mean_absolute_error: 0.3087 - mean_squared_error: 0.7300 - rmse: 0.6868 -
mean_absolute_percentage_error: 234.8579
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7286 -
mean_absolute_error: 0.3110 - mean_squared_error: 0.7269 - rmse: 0.7319 -
mean_absolute_percentage_error: 239.2097
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7253 -
mean_absolute_error: 0.3108 - mean_squared_error: 0.7237 - rmse: 0.6721 -
mean_absolute_percentage_error: 240.2623
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7235 -
mean_absolute_error: 0.3089 - mean_squared_error: 0.7218 - rmse: 0.7188 -

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mean_absolute_percentage_error: 237.5733
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7210 -
mean_absolute_error: 0.3091 - mean_squared_error: 0.7193 - rmse: 0.6817 -
mean_absolute_percentage_error: 237.4030
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7196 -
mean_absolute_error: 0.3092 - mean_squared_error: 0.7179 - rmse: 0.7006 -
mean_absolute_percentage_error: 238.0023
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7166 -
mean_absolute_error: 0.3089 - mean_squared_error: 0.7148 - rmse: 0.7104 -
mean_absolute_percentage_error: 237.9704
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7152 -
mean_absolute_error: 0.3089 - mean_squared_error: 0.7135 - rmse: 0.7262 -
mean_absolute_percentage_error: 236.9671
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.7137 -
mean_absolute_error: 0.3077 - mean_squared_error: 0.7120 - rmse: 0.6763 -
mean_absolute_percentage_error: 234.1591
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7118 -
mean_absolute_error: 0.3076 - mean_squared_error: 0.7100 - rmse: 0.6561 -
mean_absolute_percentage_error: 233.3609
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7107 -
mean_absolute_error: 0.3077 - mean_squared_error: 0.7089 - rmse: 0.6878 -
mean_absolute_percentage_error: 233.7722
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7096 -
mean_absolute_error: 0.3072 - mean_squared_error: 0.7078 - rmse: 0.6411 -
mean_absolute_percentage_error: 231.7795
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.7072 -
mean_absolute_error: 0.3080 - mean_squared_error: 0.7054 - rmse: 0.7234 -
mean_absolute_percentage_error: 231.4783
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.7069 -
mean_absolute_error: 0.3056 - mean_squared_error: 0.7050 - rmse: 0.6962 -
mean_absolute_percentage_error: 227.1065
Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.7059 -
mean_absolute_error: 0.3068 - mean_squared_error: 0.7040 - rmse: 0.6741 -
mean_absolute_percentage_error: 227.3435
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.7041 -
mean_absolute_error: 0.3079 - mean_squared_error: 0.7022 - rmse: 0.7071 -

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mean_absolute_percentage_error: 228.3299
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7024 -
mean_absolute_error: 0.3072 - mean_squared_error: 0.7005 - rmse: 0.7184 -
mean_absolute_percentage_error: 227.7624
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7026 -
mean_absolute_error: 0.3050 - mean_squared_error: 0.7007 - rmse: 0.7043 -
mean_absolute_percentage_error: 224.0240
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7005 -
mean_absolute_error: 0.3047 - mean_squared_error: 0.6987 - rmse: 0.6865 -
mean_absolute_percentage_error: 221.9749
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.6994 -
mean_absolute_error: 0.3066 - mean_squared_error: 0.6975 - rmse: 0.6992 -
mean_absolute_percentage_error: 223.2654
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.6986 -
mean_absolute_error: 0.3041 - mean_squared_error: 0.6967 - rmse: 0.7202 -
mean_absolute_percentage_error: 219.8345
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.6979 -
mean_absolute_error: 0.3027 - mean_squared_error: 0.6959 - rmse: 0.6598 -
mean_absolute_percentage_error: 215.8350
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.6964 -
mean_absolute_error: 0.3056 - mean_squared_error: 0.6944 - rmse: 0.6971 -
mean_absolute_percentage_error: 219.1089
5/5 [=====] - 0s 2ms/step - loss: 0.2304 -
mean_absolute_error: 0.2844 - mean_squared_error: 0.2285 - rmse: 0.4628 -
mean_absolute_percentage_error: 209.1399
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L2
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Training for fold 10 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2880 -
mean_absolute_error: 0.5848 - mean_squared_error: 1.2877 - rmse: 0.9609 -
mean_absolute_percentage_error: 98.8895
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2801 -
mean_absolute_error: 0.5788 - mean_squared_error: 1.2798 - rmse: 0.9969 -
mean_absolute_percentage_error: 97.3352
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.2720 -
mean_absolute_error: 0.5713 - mean_squared_error: 1.2717 - rmse: 1.0365 -
mean_absolute_percentage_error: 95.4582

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Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.2601 -
mean_absolute_error: 0.5604 - mean_squared_error: 1.2598 - rmse: 0.9985 -
mean_absolute_percentage_error: 92.8493

Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.2431 -
mean_absolute_error: 0.5440 - mean_squared_error: 1.2428 - rmse: 0.9621 -
mean_absolute_percentage_error: 89.7332

Epoch 6/50
10/10 [=====] - 0s 4ms/step - loss: 1.2236 -
mean_absolute_error: 0.5220 - mean_squared_error: 1.2231 - rmse: 0.9809 -
mean_absolute_percentage_error: 85.4581

Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.1985 -
mean_absolute_error: 0.4958 - mean_squared_error: 1.1980 - rmse: 0.9935 -
mean_absolute_percentage_error: 80.3817

Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.1737 -
mean_absolute_error: 0.4684 - mean_squared_error: 1.1732 - rmse: 0.9524 -
mean_absolute_percentage_error: 76.7661

Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.1495 -
mean_absolute_error: 0.4444 - mean_squared_error: 1.1488 - rmse: 0.8156 -
mean_absolute_percentage_error: 76.4852

Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 1.1245 -
mean_absolute_error: 0.4251 - mean_squared_error: 1.1237 - rmse: 0.8892 -
mean_absolute_percentage_error: 76.3883

Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 1.0999 -
mean_absolute_error: 0.4069 - mean_squared_error: 1.0991 - rmse: 0.8532 -
mean_absolute_percentage_error: 78.4291

Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 1.0743 -
mean_absolute_error: 0.3894 - mean_squared_error: 1.0733 - rmse: 0.8203 -
mean_absolute_percentage_error: 80.1548

Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 1.0483 -
mean_absolute_error: 0.3711 - mean_squared_error: 1.0473 - rmse: 0.8507 -
mean_absolute_percentage_error: 80.9277

Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 1.0221 -
mean_absolute_error: 0.3545 - mean_squared_error: 1.0210 - rmse: 0.8827 -
mean_absolute_percentage_error: 84.4113

Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.9965 -
mean_absolute_error: 0.3398 - mean_squared_error: 0.9953 - rmse: 0.7747 -
mean_absolute_percentage_error: 88.0608

Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.9718 -
mean_absolute_error: 0.3260 - mean_squared_error: 0.9706 - rmse: 0.8311 -
mean_absolute_percentage_error: 92.0484

Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.9484 -
mean_absolute_error: 0.3153 - mean_squared_error: 0.9470 - rmse: 0.7984 -
mean_absolute_percentage_error: 96.1765

Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.9211 -
mean_absolute_error: 0.3068 - mean_squared_error: 0.9197 - rmse: 0.8005 -
mean_absolute_percentage_error: 100.7400

Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.9051 -
mean_absolute_error: 0.3045 - mean_squared_error: 0.9036 - rmse: 0.7658 -
mean_absolute_percentage_error: 107.4727

Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.8826 -
mean_absolute_error: 0.3013 - mean_squared_error: 0.8810 - rmse: 0.7565 -
mean_absolute_percentage_error: 116.0901

Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.8628 -
mean_absolute_error: 0.2989 - mean_squared_error: 0.8611 - rmse: 0.7887 -
mean_absolute_percentage_error: 124.2813

Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.8455 -
mean_absolute_error: 0.2966 - mean_squared_error: 0.8438 - rmse: 0.7270 -
mean_absolute_percentage_error: 128.7697

Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.8292 -
mean_absolute_error: 0.2958 - mean_squared_error: 0.8274 - rmse: 0.7309 -
mean_absolute_percentage_error: 133.9894

Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.8155 -
mean_absolute_error: 0.2953 - mean_squared_error: 0.8136 - rmse: 0.6997 -
mean_absolute_percentage_error: 140.5885

Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.8051 -
mean_absolute_error: 0.2971 - mean_squared_error: 0.8032 - rmse: 0.7031 -
mean_absolute_percentage_error: 147.4656

Epoch 26/50
10/10 [=====] - 0s 4ms/step - loss: 0.7909 -
mean_absolute_error: 0.2971 - mean_squared_error: 0.7890 - rmse: 0.6630 -
mean_absolute_percentage_error: 153.0222

Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7816 -
mean_absolute_error: 0.2968 - mean_squared_error: 0.7796 - rmse: 0.7309 -
mean_absolute_percentage_error: 153.5632

Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7750 -
mean_absolute_error: 0.2984 - mean_squared_error: 0.7729 - rmse: 0.7625 -
mean_absolute_percentage_error: 159.7561

Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7666 -
mean_absolute_error: 0.3021 - mean_squared_error: 0.7645 - rmse: 0.7020 -
mean_absolute_percentage_error: 164.5208

Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.7625 -
mean_absolute_error: 0.3046 - mean_squared_error: 0.7603 - rmse: 0.6807 -
mean_absolute_percentage_error: 168.4178

Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7562 -
mean_absolute_error: 0.3059 - mean_squared_error: 0.7541 - rmse: 0.7323 -
mean_absolute_percentage_error: 169.9814

Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7537 -
mean_absolute_error: 0.3088 - mean_squared_error: 0.7515 - rmse: 0.7153 -
mean_absolute_percentage_error: 174.8074

Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.7494 -
mean_absolute_error: 0.3117 - mean_squared_error: 0.7472 - rmse: 0.7586 -
mean_absolute_percentage_error: 178.8306

Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7458 -
mean_absolute_error: 0.3127 - mean_squared_error: 0.7435 - rmse: 0.7315 -
mean_absolute_percentage_error: 180.6506

Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7431 -
mean_absolute_error: 0.3145 - mean_squared_error: 0.7408 - rmse: 0.6855 -
mean_absolute_percentage_error: 183.4518

Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.7411 -
mean_absolute_error: 0.3142 - mean_squared_error: 0.7388 - rmse: 0.7249 -
mean_absolute_percentage_error: 183.5099

Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.7398 -
mean_absolute_error: 0.3169 - mean_squared_error: 0.7375 - rmse: 0.7452 -
mean_absolute_percentage_error: 187.7840

Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7369 -
mean_absolute_error: 0.3176 - mean_squared_error: 0.7345 - rmse: 0.7306 -
mean_absolute_percentage_error: 189.3328

Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7356 -
mean_absolute_error: 0.3185 - mean_squared_error: 0.7332 - rmse: 0.7314 -
mean_absolute_percentage_error: 190.6969

Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7344 -
mean_absolute_error: 0.3202 - mean_squared_error: 0.7320 - rmse: 0.7191 -
mean_absolute_percentage_error: 193.0395

Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7330 -
mean_absolute_error: 0.3223 - mean_squared_error: 0.7306 - rmse: 0.6939 -
mean_absolute_percentage_error: 194.9884

Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.7315 -
mean_absolute_error: 0.3210 - mean_squared_error: 0.7291 - rmse: 0.6955 -
mean_absolute_percentage_error: 194.6071

Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.7304 -
mean_absolute_error: 0.3210 - mean_squared_error: 0.7280 - rmse: 0.7135 -
mean_absolute_percentage_error: 195.3045

Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.7295 -
mean_absolute_error: 0.3212 - mean_squared_error: 0.7270 - rmse: 0.7138 -
mean_absolute_percentage_error: 195.1117

Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7279 -
mean_absolute_error: 0.3207 - mean_squared_error: 0.7255 - rmse: 0.7263 -
mean_absolute_percentage_error: 195.0060

Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.7277 -
mean_absolute_error: 0.3221 - mean_squared_error: 0.7252 - rmse: 0.7290 -
mean_absolute_percentage_error: 195.6579

Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7267 -
mean_absolute_error: 0.3233 - mean_squared_error: 0.7242 - rmse: 0.7174 -
mean_absolute_percentage_error: 196.3711

Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7257 -
mean_absolute_error: 0.3234 - mean_squared_error: 0.7232 - rmse: 0.7328 -
mean_absolute_percentage_error: 196.6634

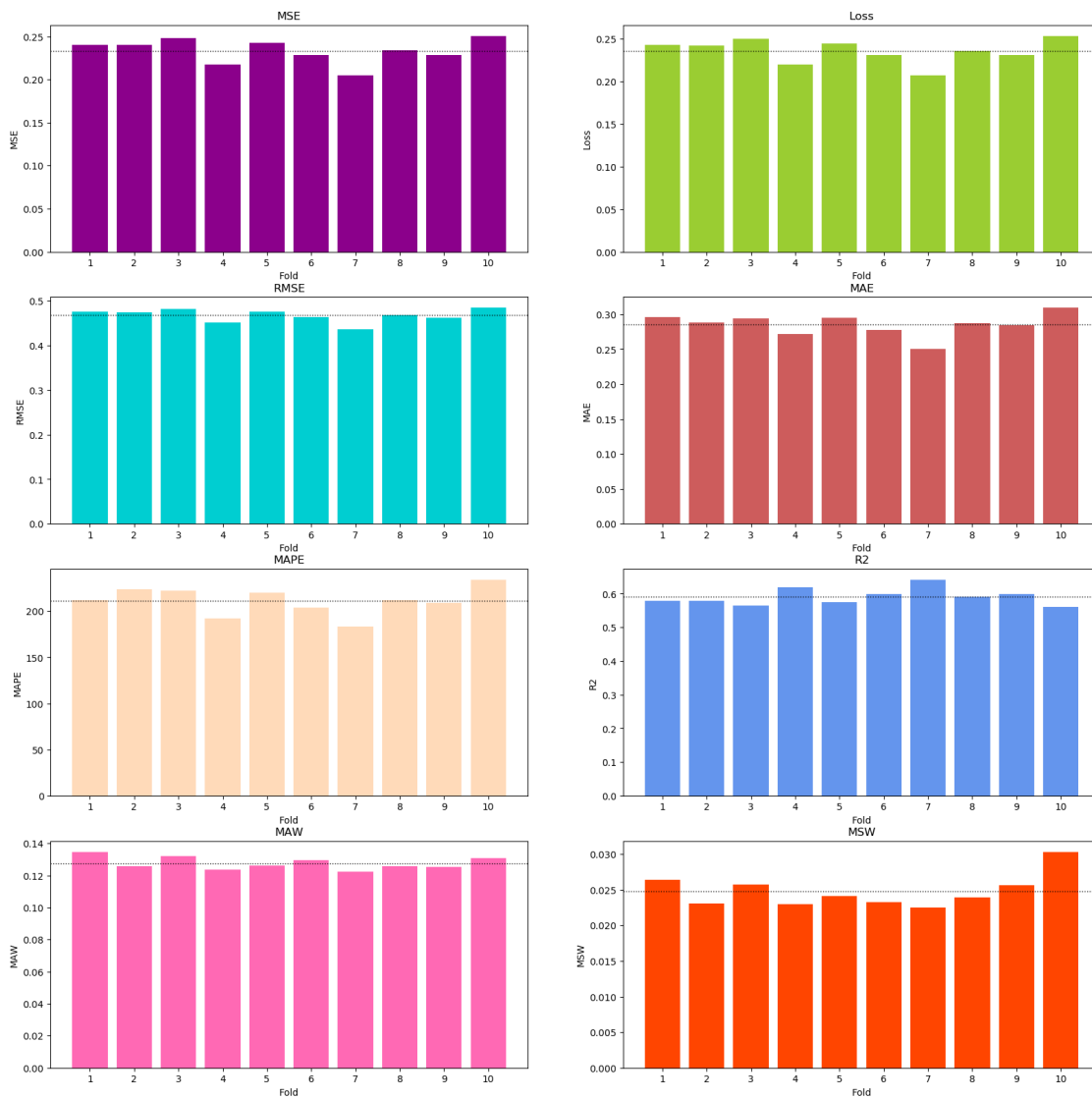
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7246 -
mean_absolute_error: 0.3212 - mean_squared_error: 0.7221 - rmse: 0.6725 -
mean_absolute_percentage_error: 195.0134

Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7243 -
mean_absolute_error: 0.3201 - mean_squared_error: 0.7218 - rmse: 0.6797 -
mean_absolute_percentage_error: 194.0486

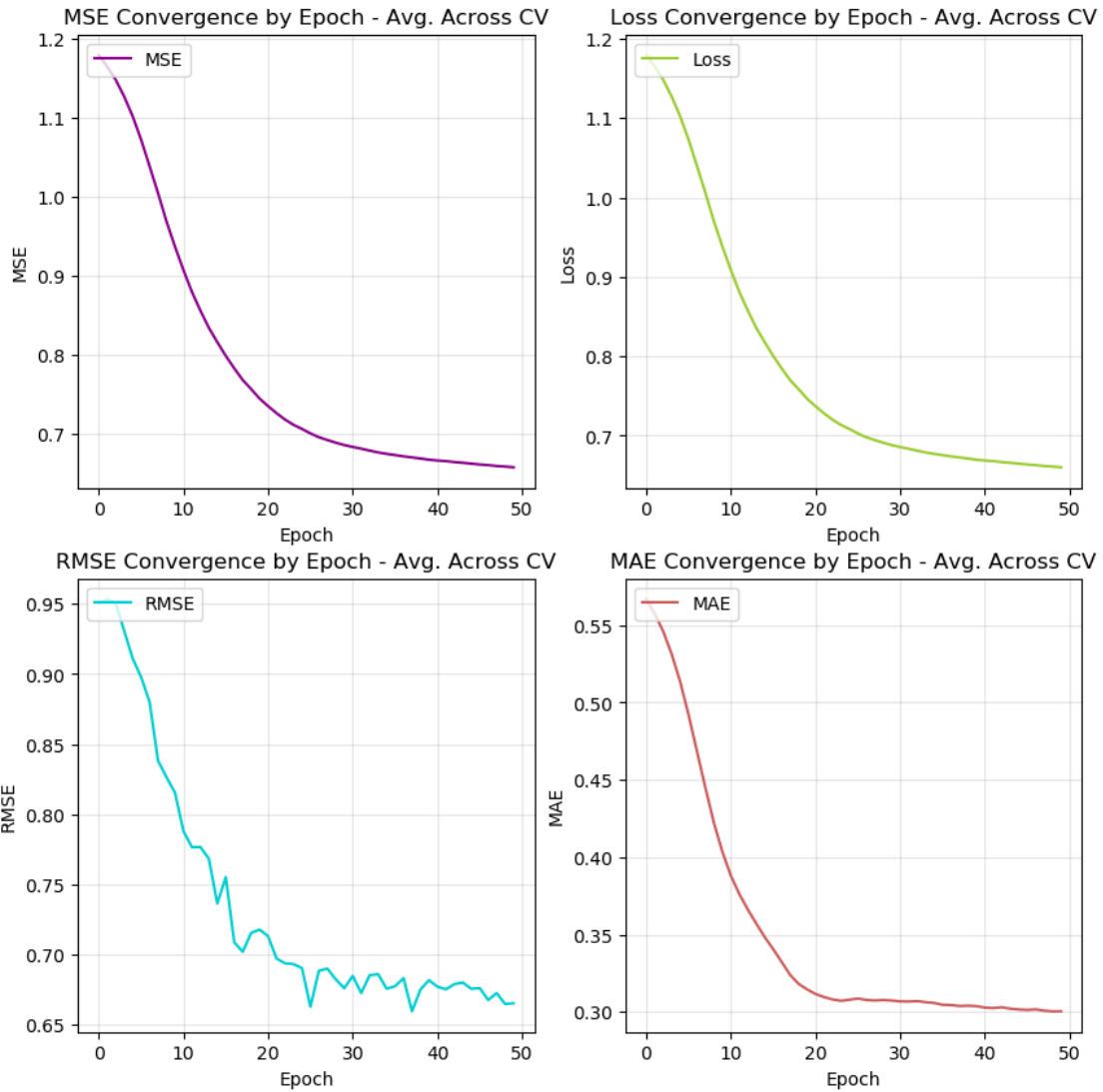
5/5 [=====] - 0s 2ms/step - loss: 0.2532 -
mean_absolute_error: 0.3092 - mean_squared_error: 0.2507 - rmse: 0.4847 -
mean_absolute_percentage_error: 233.7858

5/5 [=====] - 0s 1ms/step

```
[22]: #Graph for Measures
figure_l2 = graph_metric_by_fold(compendium_l2)
plt.show()
```



```
[23]: #Graph for Convergence
figure_l2 = graph_epoch_convergence(compendium_l2)
plt.show()
```



7 L1L2 Regularization

```
[24]: #Creating the MLP
compendium_mixed = folds_and_model(x_tr, y_tr, x_ts, y_ts,
                                   7, regularizer = 'Mixed', input_no = 13,
                                   batch = 32, epochs_no = 50)
```

Regularizer chosen is L1L2

Training for fold 1 ...

Epoch 1/50

10/10 [=====] - 1s 2ms/step - loss: 1.2726 -

mean_absolute_error: 0.5835 - mean_squared_error: 1.2693 - rmse: 1.0198 -

```

mean_absolute_percentage_error: 100.5996
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2610 -
mean_absolute_error: 0.5772 - mean_squared_error: 1.2577 - rmse: 1.0283 -
mean_absolute_percentage_error: 98.8726
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.2460 -
mean_absolute_error: 0.5686 - mean_squared_error: 1.2424 - rmse: 1.0002 -
mean_absolute_percentage_error: 98.0881
Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.2240 -
mean_absolute_error: 0.5578 - mean_squared_error: 1.2200 - rmse: 0.9675 -
mean_absolute_percentage_error: 99.0727
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1993 -
mean_absolute_error: 0.5423 - mean_squared_error: 1.1947 - rmse: 0.9749 -
mean_absolute_percentage_error: 100.6092
Epoch 6/50
10/10 [=====] - 0s 2ms/step - loss: 1.1645 -
mean_absolute_error: 0.5207 - mean_squared_error: 1.1591 - rmse: 0.9076 -
mean_absolute_percentage_error: 102.1957
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.1296 -
mean_absolute_error: 0.4956 - mean_squared_error: 1.1235 - rmse: 0.9425 -
mean_absolute_percentage_error: 105.3804
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0896 -
mean_absolute_error: 0.4667 - mean_squared_error: 1.0828 - rmse: 0.8573 -
mean_absolute_percentage_error: 106.9940
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 1.0522 -
mean_absolute_error: 0.4382 - mean_squared_error: 1.0446 - rmse: 0.8709 -
mean_absolute_percentage_error: 112.8432
Epoch 10/50
10/10 [=====] - 0s 5ms/step - loss: 1.0157 -
mean_absolute_error: 0.4153 - mean_squared_error: 1.0074 - rmse: 0.8499 -
mean_absolute_percentage_error: 120.0046
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9834 -
mean_absolute_error: 0.3978 - mean_squared_error: 0.9747 - rmse: 0.8451 -
mean_absolute_percentage_error: 126.2723
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.9542 -
mean_absolute_error: 0.3885 - mean_squared_error: 0.9450 - rmse: 0.8429 -
mean_absolute_percentage_error: 140.0091
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.9298 -
mean_absolute_error: 0.3802 - mean_squared_error: 0.9203 - rmse: 0.8186 -

```


mean_absolute_percentage_error: 148.8270
Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.9048 -
mean_absolute_error: 0.3721 - mean_squared_error: 0.8949 - rmse: 0.8090 -
mean_absolute_percentage_error: 160.0566
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.8873 -
mean_absolute_error: 0.3651 - mean_squared_error: 0.8770 - rmse: 0.8082 -
mean_absolute_percentage_error: 167.4361
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8686 -
mean_absolute_error: 0.3597 - mean_squared_error: 0.8580 - rmse: 0.7274 -
mean_absolute_percentage_error: 178.8590
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8487 -
mean_absolute_error: 0.3499 - mean_squared_error: 0.8379 - rmse: 0.8190 -
mean_absolute_percentage_error: 181.9053
Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.8338 -
mean_absolute_error: 0.3418 - mean_squared_error: 0.8229 - rmse: 0.7378 -
mean_absolute_percentage_error: 183.1230
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.8190 -
mean_absolute_error: 0.3342 - mean_squared_error: 0.8079 - rmse: 0.7617 -
mean_absolute_percentage_error: 182.4336
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.8072 -
mean_absolute_error: 0.3306 - mean_squared_error: 0.7959 - rmse: 0.7405 -
mean_absolute_percentage_error: 185.4433
Epoch 21/50
10/10 [=====] - 0s 4ms/step - loss: 0.7967 -
mean_absolute_error: 0.3287 - mean_squared_error: 0.7851 - rmse: 0.7421 -
mean_absolute_percentage_error: 190.9279
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.7866 -
mean_absolute_error: 0.3291 - mean_squared_error: 0.7748 - rmse: 0.7741 -
mean_absolute_percentage_error: 192.8259
Epoch 23/50
10/10 [=====] - 0s 4ms/step - loss: 0.7776 -
mean_absolute_error: 0.3281 - mean_squared_error: 0.7657 - rmse: 0.7663 -
mean_absolute_percentage_error: 194.3837
Epoch 24/50
10/10 [=====] - 0s 4ms/step - loss: 0.7708 -
mean_absolute_error: 0.3279 - mean_squared_error: 0.7588 - rmse: 0.7744 -
mean_absolute_percentage_error: 196.0111
Epoch 25/50
10/10 [=====] - 0s 4ms/step - loss: 0.7648 -
mean_absolute_error: 0.3265 - mean_squared_error: 0.7528 - rmse: 0.7447 -

```

mean_absolute_percentage_error: 196.3615
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7597 -
mean_absolute_error: 0.3262 - mean_squared_error: 0.7476 - rmse: 0.7196 -
mean_absolute_percentage_error: 197.0948
Epoch 27/50
10/10 [=====] - 0s 4ms/step - loss: 0.7559 -
mean_absolute_error: 0.3259 - mean_squared_error: 0.7438 - rmse: 0.7015 -
mean_absolute_percentage_error: 196.9523
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7537 -
mean_absolute_error: 0.3272 - mean_squared_error: 0.7414 - rmse: 0.6693 -
mean_absolute_percentage_error: 201.0945
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7493 -
mean_absolute_error: 0.3261 - mean_squared_error: 0.7371 - rmse: 0.7411 -
mean_absolute_percentage_error: 200.8237
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7471 -
mean_absolute_error: 0.3252 - mean_squared_error: 0.7348 - rmse: 0.7477 -
mean_absolute_percentage_error: 199.4581
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7445 -
mean_absolute_error: 0.3229 - mean_squared_error: 0.7323 - rmse: 0.7316 -
mean_absolute_percentage_error: 198.4671
Epoch 32/50
10/10 [=====] - 0s 5ms/step - loss: 0.7430 -
mean_absolute_error: 0.3231 - mean_squared_error: 0.7308 - rmse: 0.6834 -
mean_absolute_percentage_error: 199.1436
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.7408 -
mean_absolute_error: 0.3240 - mean_squared_error: 0.7285 - rmse: 0.6885 -
mean_absolute_percentage_error: 200.9242
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7386 -
mean_absolute_error: 0.3226 - mean_squared_error: 0.7263 - rmse: 0.7413 -
mean_absolute_percentage_error: 199.9827
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7372 -
mean_absolute_error: 0.3230 - mean_squared_error: 0.7250 - rmse: 0.7117 -
mean_absolute_percentage_error: 199.9599
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.7364 -
mean_absolute_error: 0.3237 - mean_squared_error: 0.7242 - rmse: 0.7189 -
mean_absolute_percentage_error: 200.0385
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.7353 -
mean_absolute_error: 0.3203 - mean_squared_error: 0.7232 - rmse: 0.7341 -

```

```

mean_absolute_percentage_error: 196.5187
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7327 -
mean_absolute_error: 0.3185 - mean_squared_error: 0.7207 - rmse: 0.7184 -
mean_absolute_percentage_error: 195.0289
Epoch 39/50
10/10 [=====] - 0s 1ms/step - loss: 0.7325 -
mean_absolute_error: 0.3197 - mean_squared_error: 0.7205 - rmse: 0.7145 -
mean_absolute_percentage_error: 195.9643
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7301 -
mean_absolute_error: 0.3198 - mean_squared_error: 0.7180 - rmse: 0.7226 -
mean_absolute_percentage_error: 196.4307
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7302 -
mean_absolute_error: 0.3171 - mean_squared_error: 0.7182 - rmse: 0.7298 -
mean_absolute_percentage_error: 192.9831
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7289 -
mean_absolute_error: 0.3173 - mean_squared_error: 0.7168 - rmse: 0.6196 -
mean_absolute_percentage_error: 192.5703
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7279 -
mean_absolute_error: 0.3195 - mean_squared_error: 0.7158 - rmse: 0.7441 -
mean_absolute_percentage_error: 194.1658
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7268 -
mean_absolute_error: 0.3170 - mean_squared_error: 0.7147 - rmse: 0.6903 -
mean_absolute_percentage_error: 191.2393
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7262 -
mean_absolute_error: 0.3173 - mean_squared_error: 0.7142 - rmse: 0.7309 -
mean_absolute_percentage_error: 192.2580
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7251 -
mean_absolute_error: 0.3163 - mean_squared_error: 0.7131 - rmse: 0.7050 -
mean_absolute_percentage_error: 190.4623
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.7245 -
mean_absolute_error: 0.3170 - mean_squared_error: 0.7125 - rmse: 0.6817 -
mean_absolute_percentage_error: 190.4010
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7244 -
mean_absolute_error: 0.3162 - mean_squared_error: 0.7125 - rmse: 0.7132 -
mean_absolute_percentage_error: 188.4179
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7243 -
mean_absolute_error: 0.3169 - mean_squared_error: 0.7124 - rmse: 0.7121 -

```

```

mean_absolute_percentage_error: 189.1768
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.7223 -
mean_absolute_error: 0.3156 - mean_squared_error: 0.7104 - rmse: 0.7217 -
mean_absolute_percentage_error: 187.5096
5/5 [=====] - 0s 2ms/step - loss: 0.2590 -
mean_absolute_error: 0.3003 - mean_squared_error: 0.2471 - rmse: 0.4813 -
mean_absolute_percentage_error: 222.1626
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L1L2
-----
Training for fold 2 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2738 -
mean_absolute_error: 0.5826 - mean_squared_error: 1.2701 - rmse: 1.0138 -
mean_absolute_percentage_error: 101.4249
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2577 -
mean_absolute_error: 0.5734 - mean_squared_error: 1.2542 - rmse: 0.9727 -
mean_absolute_percentage_error: 102.3835
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.2421 -
mean_absolute_error: 0.5662 - mean_squared_error: 1.2386 - rmse: 0.9261 -
mean_absolute_percentage_error: 104.8149
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.2227 -
mean_absolute_error: 0.5581 - mean_squared_error: 1.2192 - rmse: 0.9649 -
mean_absolute_percentage_error: 107.7570
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1998 -
mean_absolute_error: 0.5479 - mean_squared_error: 1.1959 - rmse: 0.9674 -
mean_absolute_percentage_error: 111.6790
Epoch 6/50
10/10 [=====] - 0s 2ms/step - loss: 1.1686 -
mean_absolute_error: 0.5352 - mean_squared_error: 1.1643 - rmse: 0.9623 -
mean_absolute_percentage_error: 122.9986
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.1270 -
mean_absolute_error: 0.5193 - mean_squared_error: 1.1220 - rmse: 0.9359 -
mean_absolute_percentage_error: 135.9628
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 1.0746 -
mean_absolute_error: 0.4990 - mean_squared_error: 1.0688 - rmse: 0.9117 -
mean_absolute_percentage_error: 151.1895
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 1.0214 -
mean_absolute_error: 0.4801 - mean_squared_error: 1.0148 - rmse: 0.8528 -
mean_absolute_percentage_error: 166.9951

```

Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.9747 -
mean_absolute_error: 0.4664 - mean_squared_error: 0.9671 - rmse: 0.7981 -
mean_absolute_percentage_error: 191.8718

Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9348 -
mean_absolute_error: 0.4508 - mean_squared_error: 0.9264 - rmse: 0.8425 -
mean_absolute_percentage_error: 213.9981

Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.9003 -
mean_absolute_error: 0.4417 - mean_squared_error: 0.8912 - rmse: 0.7721 -
mean_absolute_percentage_error: 234.6438

Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.8794 -
mean_absolute_error: 0.4302 - mean_squared_error: 0.8697 - rmse: 0.7504 -
mean_absolute_percentage_error: 244.8017

Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.8643 -
mean_absolute_error: 0.4217 - mean_squared_error: 0.8543 - rmse: 0.7398 -
mean_absolute_percentage_error: 255.7987

Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8529 -
mean_absolute_error: 0.4144 - mean_squared_error: 0.8426 - rmse: 0.7174 -
mean_absolute_percentage_error: 263.4951

Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.8421 -
mean_absolute_error: 0.4065 - mean_squared_error: 0.8315 - rmse: 0.8152 -
mean_absolute_percentage_error: 265.6509

Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8335 -
mean_absolute_error: 0.3972 - mean_squared_error: 0.8229 - rmse: 0.7678 -
mean_absolute_percentage_error: 263.0254

Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.8263 -
mean_absolute_error: 0.3900 - mean_squared_error: 0.8156 - rmse: 0.7434 -
mean_absolute_percentage_error: 262.4412

Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8197 -
mean_absolute_error: 0.3845 - mean_squared_error: 0.8090 - rmse: 0.7399 -
mean_absolute_percentage_error: 262.5296

Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.8170 -
mean_absolute_error: 0.3822 - mean_squared_error: 0.8062 - rmse: 0.7669 -
mean_absolute_percentage_error: 265.7217

Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.8092 -
mean_absolute_error: 0.3734 - mean_squared_error: 0.7985 - rmse: 0.7048 -
mean_absolute_percentage_error: 261.7716

Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.8050 -
mean_absolute_error: 0.3682 - mean_squared_error: 0.7943 - rmse: 0.7440 -
mean_absolute_percentage_error: 262.6057

Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.7982 -
mean_absolute_error: 0.3621 - mean_squared_error: 0.7875 - rmse: 0.7333 -
mean_absolute_percentage_error: 261.0103

Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.7933 -
mean_absolute_error: 0.3540 - mean_squared_error: 0.7826 - rmse: 0.7343 -
mean_absolute_percentage_error: 256.1665

Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7890 -
mean_absolute_error: 0.3477 - mean_squared_error: 0.7783 - rmse: 0.7550 -
mean_absolute_percentage_error: 252.9075

Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7852 -
mean_absolute_error: 0.3416 - mean_squared_error: 0.7746 - rmse: 0.7700 -
mean_absolute_percentage_error: 249.2377

Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7820 -
mean_absolute_error: 0.3347 - mean_squared_error: 0.7714 - rmse: 0.7290 -
mean_absolute_percentage_error: 244.1194

Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7787 -
mean_absolute_error: 0.3310 - mean_squared_error: 0.7681 - rmse: 0.7451 -
mean_absolute_percentage_error: 243.5249

Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7754 -
mean_absolute_error: 0.3282 - mean_squared_error: 0.7647 - rmse: 0.7629 -
mean_absolute_percentage_error: 243.4646

Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.7743 -
mean_absolute_error: 0.3274 - mean_squared_error: 0.7636 - rmse: 0.7599 -
mean_absolute_percentage_error: 246.9392

Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7706 -
mean_absolute_error: 0.3231 - mean_squared_error: 0.7599 - rmse: 0.6859 -
mean_absolute_percentage_error: 243.0560

Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7662 -
mean_absolute_error: 0.3197 - mean_squared_error: 0.7555 - rmse: 0.6769 -
mean_absolute_percentage_error: 240.4292

Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.7631 -
mean_absolute_error: 0.3174 - mean_squared_error: 0.7524 - rmse: 0.6796 -
mean_absolute_percentage_error: 239.9377

Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7614 -
mean_absolute_error: 0.3158 - mean_squared_error: 0.7506 - rmse: 0.7272 -
mean_absolute_percentage_error: 240.5740

Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7572 -
mean_absolute_error: 0.3159 - mean_squared_error: 0.7464 - rmse: 0.6607 -
mean_absolute_percentage_error: 241.2528

Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7552 -
mean_absolute_error: 0.3129 - mean_squared_error: 0.7444 - rmse: 0.7037 -
mean_absolute_percentage_error: 238.7889

Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.7531 -
mean_absolute_error: 0.3069 - mean_squared_error: 0.7424 - rmse: 0.7628 -
mean_absolute_percentage_error: 230.3697

Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7507 -
mean_absolute_error: 0.3065 - mean_squared_error: 0.7399 - rmse: 0.6986 -
mean_absolute_percentage_error: 230.2058

Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7470 -
mean_absolute_error: 0.3079 - mean_squared_error: 0.7363 - rmse: 0.7425 -
mean_absolute_percentage_error: 233.4230

Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7448 -
mean_absolute_error: 0.3066 - mean_squared_error: 0.7340 - rmse: 0.7421 -
mean_absolute_percentage_error: 231.8858

Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.7433 -
mean_absolute_error: 0.3075 - mean_squared_error: 0.7325 - rmse: 0.7530 -
mean_absolute_percentage_error: 234.3610

Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.7408 -
mean_absolute_error: 0.3034 - mean_squared_error: 0.7301 - rmse: 0.7573 -
mean_absolute_percentage_error: 228.9160

Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.7385 -
mean_absolute_error: 0.3021 - mean_squared_error: 0.7278 - rmse: 0.7424 -
mean_absolute_percentage_error: 227.7744

Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.7366 -
mean_absolute_error: 0.3027 - mean_squared_error: 0.7258 - rmse: 0.7278 -
mean_absolute_percentage_error: 229.2616

Epoch 45/50
10/10 [=====] - 0s 3ms/step - loss: 0.7354 -
mean_absolute_error: 0.3015 - mean_squared_error: 0.7246 - rmse: 0.7314 -
mean_absolute_percentage_error: 229.3999

```

Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7335 -
mean_absolute_error: 0.2998 - mean_squared_error: 0.7228 - rmse: 0.7259 -
mean_absolute_percentage_error: 226.3519
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.7326 -
mean_absolute_error: 0.3026 - mean_squared_error: 0.7217 - rmse: 0.7314 -
mean_absolute_percentage_error: 229.6179
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7311 -
mean_absolute_error: 0.3001 - mean_squared_error: 0.7202 - rmse: 0.6772 -
mean_absolute_percentage_error: 227.7594
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.7290 -
mean_absolute_error: 0.2986 - mean_squared_error: 0.7182 - rmse: 0.7107 -
mean_absolute_percentage_error: 227.1642
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.7282 -
mean_absolute_error: 0.2992 - mean_squared_error: 0.7174 - rmse: 0.6857 -
mean_absolute_percentage_error: 227.9539
5/5 [=====] - 0s 2ms/step - loss: 0.2512 -
mean_absolute_error: 0.2794 - mean_squared_error: 0.2404 - rmse: 0.4762 -
mean_absolute_percentage_error: 209.0900
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L1L2
-----
Training for fold 3 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2925 -
mean_absolute_error: 0.5879 - mean_squared_error: 1.2892 - rmse: 1.0499 -
mean_absolute_percentage_error: 97.3399
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2769 -
mean_absolute_error: 0.5825 - mean_squared_error: 1.2737 - rmse: 0.9535 -
mean_absolute_percentage_error: 97.7873
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.2618 -
mean_absolute_error: 0.5745 - mean_squared_error: 1.2585 - rmse: 0.9719 -
mean_absolute_percentage_error: 98.1223
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.2382 -
mean_absolute_error: 0.5619 - mean_squared_error: 1.2347 - rmse: 0.9850 -
mean_absolute_percentage_error: 99.0833
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.2097 -
mean_absolute_error: 0.5449 - mean_squared_error: 1.2058 - rmse: 0.9797 -
mean_absolute_percentage_error: 98.7808
Epoch 6/50

```


10/10 [=====] - 0s 3ms/step - loss: 1.1754 -
mean_absolute_error: 0.5229 - mean_squared_error: 1.1707 - rmse: 0.9200 -
mean_absolute_percentage_error: 98.9585
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.1367 -
mean_absolute_error: 0.4965 - mean_squared_error: 1.1313 - rmse: 0.9552 -
mean_absolute_percentage_error: 100.2073
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 1.0976 -
mean_absolute_error: 0.4669 - mean_squared_error: 1.0914 - rmse: 0.9032 -
mean_absolute_percentage_error: 103.8947
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0520 -
mean_absolute_error: 0.4384 - mean_squared_error: 1.0450 - rmse: 0.8759 -
mean_absolute_percentage_error: 109.0101
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 1.0139 -
mean_absolute_error: 0.4159 - mean_squared_error: 1.0063 - rmse: 0.8815 -
mean_absolute_percentage_error: 115.0607
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9808 -
mean_absolute_error: 0.3989 - mean_squared_error: 0.9726 - rmse: 0.7905 -
mean_absolute_percentage_error: 122.5506
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.9469 -
mean_absolute_error: 0.3865 - mean_squared_error: 0.9382 - rmse: 0.8395 -
mean_absolute_percentage_error: 132.0131
Epoch 13/50
10/10 [=====] - 0s 3ms/step - loss: 0.9194 -
mean_absolute_error: 0.3742 - mean_squared_error: 0.9102 - rmse: 0.7735 -
mean_absolute_percentage_error: 141.7712
Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.8897 -
mean_absolute_error: 0.3598 - mean_squared_error: 0.8800 - rmse: 0.7495 -
mean_absolute_percentage_error: 146.3196
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.8703 -
mean_absolute_error: 0.3505 - mean_squared_error: 0.8603 - rmse: 0.7905 -
mean_absolute_percentage_error: 151.8040
Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.8495 -
mean_absolute_error: 0.3404 - mean_squared_error: 0.8392 - rmse: 0.7836 -
mean_absolute_percentage_error: 156.5557
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.8321 -
mean_absolute_error: 0.3306 - mean_squared_error: 0.8216 - rmse: 0.7586 -
mean_absolute_percentage_error: 158.9459
Epoch 18/50

10/10 [=====] - 0s 2ms/step - loss: 0.8193 -
mean_absolute_error: 0.3266 - mean_squared_error: 0.8086 - rmse: 0.7303 -
mean_absolute_percentage_error: 163.5158
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8099 -
mean_absolute_error: 0.3252 - mean_squared_error: 0.7989 - rmse: 0.7126 -
mean_absolute_percentage_error: 167.9029
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.7991 -
mean_absolute_error: 0.3254 - mean_squared_error: 0.7880 - rmse: 0.7174 -
mean_absolute_percentage_error: 173.7547
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.7914 -
mean_absolute_error: 0.3266 - mean_squared_error: 0.7801 - rmse: 0.7235 -
mean_absolute_percentage_error: 176.3976
Epoch 22/50
10/10 [=====] - 0s 4ms/step - loss: 0.7834 -
mean_absolute_error: 0.3269 - mean_squared_error: 0.7721 - rmse: 0.7248 -
mean_absolute_percentage_error: 177.9693
Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.7772 -
mean_absolute_error: 0.3265 - mean_squared_error: 0.7658 - rmse: 0.7027 -
mean_absolute_percentage_error: 177.9268
Epoch 24/50
10/10 [=====] - 0s 4ms/step - loss: 0.7712 -
mean_absolute_error: 0.3260 - mean_squared_error: 0.7597 - rmse: 0.7286 -
mean_absolute_percentage_error: 178.3342
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7672 -
mean_absolute_error: 0.3265 - mean_squared_error: 0.7556 - rmse: 0.6801 -
mean_absolute_percentage_error: 181.0449
Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7644 -
mean_absolute_error: 0.3287 - mean_squared_error: 0.7526 - rmse: 0.7300 -
mean_absolute_percentage_error: 183.8621
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7600 -
mean_absolute_error: 0.3289 - mean_squared_error: 0.7481 - rmse: 0.7365 -
mean_absolute_percentage_error: 186.3231
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.7577 -
mean_absolute_error: 0.3277 - mean_squared_error: 0.7457 - rmse: 0.7311 -
mean_absolute_percentage_error: 185.3562
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7550 -
mean_absolute_error: 0.3263 - mean_squared_error: 0.7429 - rmse: 0.7514 -
mean_absolute_percentage_error: 184.9219
Epoch 30/50

10/10 [=====] - 0s 3ms/step - loss: 0.7532 -
mean_absolute_error: 0.3248 - mean_squared_error: 0.7411 - rmse: 0.7256 -
mean_absolute_percentage_error: 184.4356
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7519 -
mean_absolute_error: 0.3257 - mean_squared_error: 0.7398 - rmse: 0.7553 -
mean_absolute_percentage_error: 184.9337
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.7501 -
mean_absolute_error: 0.3257 - mean_squared_error: 0.7380 - rmse: 0.7412 -
mean_absolute_percentage_error: 185.2679
Epoch 33/50
10/10 [=====] - 0s 4ms/step - loss: 0.7485 -
mean_absolute_error: 0.3249 - mean_squared_error: 0.7363 - rmse: 0.6849 -
mean_absolute_percentage_error: 184.9878
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.7478 -
mean_absolute_error: 0.3265 - mean_squared_error: 0.7357 - rmse: 0.7381 -
mean_absolute_percentage_error: 186.2488
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.7463 -
mean_absolute_error: 0.3267 - mean_squared_error: 0.7341 - rmse: 0.6940 -
mean_absolute_percentage_error: 185.8804
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7455 -
mean_absolute_error: 0.3254 - mean_squared_error: 0.7333 - rmse: 0.7097 -
mean_absolute_percentage_error: 185.6469
Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.7441 -
mean_absolute_error: 0.3246 - mean_squared_error: 0.7319 - rmse: 0.7237 -
mean_absolute_percentage_error: 185.4551
Epoch 38/50
10/10 [=====] - 0s 3ms/step - loss: 0.7434 -
mean_absolute_error: 0.3265 - mean_squared_error: 0.7311 - rmse: 0.7380 -
mean_absolute_percentage_error: 186.0002
Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.7412 -
mean_absolute_error: 0.3261 - mean_squared_error: 0.7290 - rmse: 0.6845 -
mean_absolute_percentage_error: 185.4826
Epoch 40/50
10/10 [=====] - 0s 4ms/step - loss: 0.7416 -
mean_absolute_error: 0.3215 - mean_squared_error: 0.7294 - rmse: 0.6980 -
mean_absolute_percentage_error: 182.0118
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.7396 -
mean_absolute_error: 0.3205 - mean_squared_error: 0.7274 - rmse: 0.6924 -
mean_absolute_percentage_error: 180.2702
Epoch 42/50

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10/10 [=====] - 0s 3ms/step - loss: 0.7392 -
mean_absolute_error: 0.3212 - mean_squared_error: 0.7270 - rmse: 0.7252 -
mean_absolute_percentage_error: 180.0642
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.7384 -
mean_absolute_error: 0.3192 - mean_squared_error: 0.7263 - rmse: 0.7268 -
mean_absolute_percentage_error: 178.5844
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7373 -
mean_absolute_error: 0.3210 - mean_squared_error: 0.7252 - rmse: 0.6925 -
mean_absolute_percentage_error: 179.8294
Epoch 45/50
10/10 [=====] - 0s 3ms/step - loss: 0.7381 -
mean_absolute_error: 0.3242 - mean_squared_error: 0.7259 - rmse: 0.7578 -
mean_absolute_percentage_error: 181.8715
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.7360 -
mean_absolute_error: 0.3244 - mean_squared_error: 0.7237 - rmse: 0.7263 -
mean_absolute_percentage_error: 182.2686
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7346 -
mean_absolute_error: 0.3228 - mean_squared_error: 0.7224 - rmse: 0.7186 -
mean_absolute_percentage_error: 180.7091
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.7352 -
mean_absolute_error: 0.3198 - mean_squared_error: 0.7230 - rmse: 0.7108 -
mean_absolute_percentage_error: 178.1427
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7348 -
mean_absolute_error: 0.3213 - mean_squared_error: 0.7226 - rmse: 0.7041 -
mean_absolute_percentage_error: 177.9250
Epoch 50/50
10/10 [=====] - 0s 4ms/step - loss: 0.7344 -
mean_absolute_error: 0.3234 - mean_squared_error: 0.7221 - rmse: 0.6951 -
mean_absolute_percentage_error: 178.7589
5/5 [=====] - 0s 2ms/step - loss: 0.2559 -
mean_absolute_error: 0.2966 - mean_squared_error: 0.2437 - rmse: 0.4775 -
mean_absolute_percentage_error: 224.3250
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L1L2
-----
Training for fold 4 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2740 -
mean_absolute_error: 0.5870 - mean_squared_error: 1.2704 - rmse: 1.0474 -
mean_absolute_percentage_error: 102.5828
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.2564 -

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mean_absolute_error: 0.5763 - mean_squared_error: 1.2528 - rmse: 0.9839 -
mean_absolute_percentage_error: 101.6270
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.2315 -
mean_absolute_error: 0.5649 - mean_squared_error: 1.2279 - rmse: 0.9968 -
mean_absolute_percentage_error: 102.1343
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.2034 -
mean_absolute_error: 0.5505 - mean_squared_error: 1.1995 - rmse: 0.9785 -
mean_absolute_percentage_error: 105.7369
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1703 -
mean_absolute_error: 0.5340 - mean_squared_error: 1.1662 - rmse: 0.9968 -
mean_absolute_percentage_error: 108.2427
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.1327 -
mean_absolute_error: 0.5149 - mean_squared_error: 1.1280 - rmse: 0.9103 -
mean_absolute_percentage_error: 117.7616
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.0881 -
mean_absolute_error: 0.4885 - mean_squared_error: 1.0829 - rmse: 0.9176 -
mean_absolute_percentage_error: 121.1667
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0498 -
mean_absolute_error: 0.4615 - mean_squared_error: 1.0440 - rmse: 0.8514 -
mean_absolute_percentage_error: 127.9717
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 1.0097 -
mean_absolute_error: 0.4349 - mean_squared_error: 1.0032 - rmse: 0.8474 -
mean_absolute_percentage_error: 137.9582
Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.9743 -
mean_absolute_error: 0.4128 - mean_squared_error: 0.9672 - rmse: 0.8503 -
mean_absolute_percentage_error: 149.3168
Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.9438 -
mean_absolute_error: 0.4000 - mean_squared_error: 0.9363 - rmse: 0.8244 -
mean_absolute_percentage_error: 163.2325
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.9173 -
mean_absolute_error: 0.3914 - mean_squared_error: 0.9094 - rmse: 0.8108 -
mean_absolute_percentage_error: 174.9264
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.8974 -
mean_absolute_error: 0.3838 - mean_squared_error: 0.8892 - rmse: 0.7521 -
mean_absolute_percentage_error: 183.7074
Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.8793 -

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mean_absolute_error: 0.3793 - mean_squared_error: 0.8708 - rmse: 0.7415 -
mean_absolute_percentage_error: 196.8389
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.8649 -
mean_absolute_error: 0.3733 - mean_squared_error: 0.8562 - rmse: 0.7995 -
mean_absolute_percentage_error: 203.0430
Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.8517 -
mean_absolute_error: 0.3674 - mean_squared_error: 0.8427 - rmse: 0.7952 -
mean_absolute_percentage_error: 210.6494
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.8390 -
mean_absolute_error: 0.3585 - mean_squared_error: 0.8298 - rmse: 0.7136 -
mean_absolute_percentage_error: 215.6945
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.8264 -
mean_absolute_error: 0.3501 - mean_squared_error: 0.8171 - rmse: 0.7724 -
mean_absolute_percentage_error: 217.4724
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.8162 -
mean_absolute_error: 0.3425 - mean_squared_error: 0.8068 - rmse: 0.7576 -
mean_absolute_percentage_error: 219.8071
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.8072 -
mean_absolute_error: 0.3359 - mean_squared_error: 0.7977 - rmse: 0.7151 -
mean_absolute_percentage_error: 219.7449
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.7996 -
mean_absolute_error: 0.3317 - mean_squared_error: 0.7900 - rmse: 0.6936 -
mean_absolute_percentage_error: 222.6125
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7934 -
mean_absolute_error: 0.3280 - mean_squared_error: 0.7837 - rmse: 0.7433 -
mean_absolute_percentage_error: 222.0116
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7872 -
mean_absolute_error: 0.3251 - mean_squared_error: 0.7774 - rmse: 0.7805 -
mean_absolute_percentage_error: 221.3638
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7828 -
mean_absolute_error: 0.3226 - mean_squared_error: 0.7730 - rmse: 0.7092 -
mean_absolute_percentage_error: 221.4198
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.7773 -
mean_absolute_error: 0.3226 - mean_squared_error: 0.7675 - rmse: 0.7527 -
mean_absolute_percentage_error: 223.1492
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7750 -

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mean_absolute_error: 0.3189 - mean_squared_error: 0.7653 - rmse: 0.6965 -
mean_absolute_percentage_error: 220.4450
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.7704 -
mean_absolute_error: 0.3176 - mean_squared_error: 0.7607 - rmse: 0.7081 -
mean_absolute_percentage_error: 219.5446
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7678 -
mean_absolute_error: 0.3210 - mean_squared_error: 0.7580 - rmse: 0.7282 -
mean_absolute_percentage_error: 223.5009
Epoch 29/50
10/10 [=====] - 0s 3ms/step - loss: 0.7643 -
mean_absolute_error: 0.3198 - mean_squared_error: 0.7545 - rmse: 0.7411 -
mean_absolute_percentage_error: 223.0109
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.7617 -
mean_absolute_error: 0.3199 - mean_squared_error: 0.7519 - rmse: 0.7157 -
mean_absolute_percentage_error: 223.5000
Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.7588 -
mean_absolute_error: 0.3205 - mean_squared_error: 0.7491 - rmse: 0.7128 -
mean_absolute_percentage_error: 224.0184
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.7575 -
mean_absolute_error: 0.3196 - mean_squared_error: 0.7477 - rmse: 0.6759 -
mean_absolute_percentage_error: 223.1189
Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.7543 -
mean_absolute_error: 0.3205 - mean_squared_error: 0.7445 - rmse: 0.7199 -
mean_absolute_percentage_error: 223.2240
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.7524 -
mean_absolute_error: 0.3200 - mean_squared_error: 0.7426 - rmse: 0.7661 -
mean_absolute_percentage_error: 223.2088
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.7507 -
mean_absolute_error: 0.3181 - mean_squared_error: 0.7410 - rmse: 0.7515 -
mean_absolute_percentage_error: 220.7535
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.7493 -
mean_absolute_error: 0.3170 - mean_squared_error: 0.7396 - rmse: 0.7146 -
mean_absolute_percentage_error: 219.3232
Epoch 37/50
10/10 [=====] - 0s 4ms/step - loss: 0.7477 -
mean_absolute_error: 0.3150 - mean_squared_error: 0.7380 - rmse: 0.7204 -
mean_absolute_percentage_error: 216.6987
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.7461 -

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mean_absolute_error: 0.3160 - mean_squared_error: 0.7364 - rmse: 0.7539 -
mean_absolute_percentage_error: 218.4130
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.7443 -
mean_absolute_error: 0.3173 - mean_squared_error: 0.7346 - rmse: 0.7147 -
mean_absolute_percentage_error: 220.0655
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.7429 -
mean_absolute_error: 0.3172 - mean_squared_error: 0.7332 - rmse: 0.7246 -
mean_absolute_percentage_error: 219.2958
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7416 -
mean_absolute_error: 0.3141 - mean_squared_error: 0.7319 - rmse: 0.6836 -
mean_absolute_percentage_error: 215.2750
Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.7403 -
mean_absolute_error: 0.3113 - mean_squared_error: 0.7306 - rmse: 0.7235 -
mean_absolute_percentage_error: 212.0382
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.7387 -
mean_absolute_error: 0.3120 - mean_squared_error: 0.7290 - rmse: 0.6970 -
mean_absolute_percentage_error: 213.0455
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.7377 -
mean_absolute_error: 0.3137 - mean_squared_error: 0.7280 - rmse: 0.7238 -
mean_absolute_percentage_error: 215.0602
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.7362 -
mean_absolute_error: 0.3128 - mean_squared_error: 0.7264 - rmse: 0.7331 -
mean_absolute_percentage_error: 214.8116
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.7355 -
mean_absolute_error: 0.3116 - mean_squared_error: 0.7257 - rmse: 0.6993 -
mean_absolute_percentage_error: 212.4261
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.7378 -
mean_absolute_error: 0.3164 - mean_squared_error: 0.7279 - rmse: 0.6945 -
mean_absolute_percentage_error: 217.9066
Epoch 48/50
10/10 [=====] - 0s 4ms/step - loss: 0.7338 -
mean_absolute_error: 0.3133 - mean_squared_error: 0.7239 - rmse: 0.7108 -
mean_absolute_percentage_error: 214.4093
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.7327 -
mean_absolute_error: 0.3089 - mean_squared_error: 0.7229 - rmse: 0.7280 -
mean_absolute_percentage_error: 207.5956
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.7315 -

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mean_absolute_error: 0.3103 - mean_squared_error: 0.7216 - rmse: 0.7329 -
mean_absolute_percentage_error: 210.6314
5/5 [=====] - 0s 2ms/step - loss: 0.2464 -
mean_absolute_error: 0.2840 - mean_squared_error: 0.2366 - rmse: 0.4743 -
mean_absolute_percentage_error: 205.2405
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L1L2
-----
Training for fold 5 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.2157 -
mean_absolute_error: 0.5513 - mean_squared_error: 1.2119 - rmse: 0.8889 -
mean_absolute_percentage_error: 94.8560
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 1.2016 -
mean_absolute_error: 0.5358 - mean_squared_error: 1.1977 - rmse: 0.9397 -
mean_absolute_percentage_error: 90.6445
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.1887 -
mean_absolute_error: 0.5170 - mean_squared_error: 1.1845 - rmse: 0.9462 -
mean_absolute_percentage_error: 85.7140
Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.1747 -
mean_absolute_error: 0.4930 - mean_squared_error: 1.1701 - rmse: 0.9529 -
mean_absolute_percentage_error: 80.0029
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1627 -
mean_absolute_error: 0.4676 - mean_squared_error: 1.1575 - rmse: 0.9160 -
mean_absolute_percentage_error: 74.3636
Epoch 6/50
10/10 [=====] - 0s 2ms/step - loss: 1.1528 -
mean_absolute_error: 0.4458 - mean_squared_error: 1.1473 - rmse: 0.9819 -
mean_absolute_percentage_error: 70.2019
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.1447 -
mean_absolute_error: 0.4321 - mean_squared_error: 1.1389 - rmse: 0.9135 -
mean_absolute_percentage_error: 68.1215
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 1.1376 -
mean_absolute_error: 0.4220 - mean_squared_error: 1.1316 - rmse: 0.8887 -
mean_absolute_percentage_error: 67.1035
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 1.1294 -
mean_absolute_error: 0.4116 - mean_squared_error: 1.1233 - rmse: 0.9201 -
mean_absolute_percentage_error: 66.3644
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 1.1213 -
mean_absolute_error: 0.4002 - mean_squared_error: 1.1151 - rmse: 0.9036 -

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mean_absolute_percentage_error: 65.0186
Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 1.1139 -
mean_absolute_error: 0.3893 - mean_squared_error: 1.1075 - rmse: 0.8333 -
mean_absolute_percentage_error: 64.6311
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 1.1059 -
mean_absolute_error: 0.3780 - mean_squared_error: 1.0994 - rmse: 0.8663 -
mean_absolute_percentage_error: 63.2270
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 1.0984 -
mean_absolute_error: 0.3672 - mean_squared_error: 1.0918 - rmse: 0.8939 -
mean_absolute_percentage_error: 62.0837
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 1.0917 -
mean_absolute_error: 0.3584 - mean_squared_error: 1.0850 - rmse: 0.9009 -
mean_absolute_percentage_error: 61.3603
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 1.0853 -
mean_absolute_error: 0.3512 - mean_squared_error: 1.0785 - rmse: 0.8173 -
mean_absolute_percentage_error: 61.7792
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 1.0790 -
mean_absolute_error: 0.3457 - mean_squared_error: 1.0722 - rmse: 0.8671 -
mean_absolute_percentage_error: 61.8899
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 1.0731 -
mean_absolute_error: 0.3405 - mean_squared_error: 1.0662 - rmse: 0.9022 -
mean_absolute_percentage_error: 62.4938
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 1.0671 -
mean_absolute_error: 0.3362 - mean_squared_error: 1.0602 - rmse: 0.8548 -
mean_absolute_percentage_error: 63.3220
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 1.0615 -
mean_absolute_error: 0.3320 - mean_squared_error: 1.0547 - rmse: 0.8057 -
mean_absolute_percentage_error: 64.6849
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 1.0558 -
mean_absolute_error: 0.3276 - mean_squared_error: 1.0490 - rmse: 0.8704 -
mean_absolute_percentage_error: 65.3677
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 1.0507 -
mean_absolute_error: 0.3242 - mean_squared_error: 1.0439 - rmse: 0.8623 -
mean_absolute_percentage_error: 66.7139
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 1.0452 -
mean_absolute_error: 0.3211 - mean_squared_error: 1.0384 - rmse: 0.8593 -

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mean_absolute_percentage_error: 68.2346
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 1.0400 -
mean_absolute_error: 0.3180 - mean_squared_error: 1.0334 - rmse: 0.8106 -
mean_absolute_percentage_error: 69.4624
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 1.0354 -
mean_absolute_error: 0.3147 - mean_squared_error: 1.0288 - rmse: 0.8408 -
mean_absolute_percentage_error: 70.3539
Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 1.0305 -
mean_absolute_error: 0.3122 - mean_squared_error: 1.0240 - rmse: 0.7710 -
mean_absolute_percentage_error: 72.0516
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 1.0257 -
mean_absolute_error: 0.3099 - mean_squared_error: 1.0192 - rmse: 0.7986 -
mean_absolute_percentage_error: 73.4674
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 1.0212 -
mean_absolute_error: 0.3081 - mean_squared_error: 1.0148 - rmse: 0.8369 -
mean_absolute_percentage_error: 76.0370
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 1.0171 -
mean_absolute_error: 0.3065 - mean_squared_error: 1.0107 - rmse: 0.7787 -
mean_absolute_percentage_error: 77.5417
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 1.0128 -
mean_absolute_error: 0.3052 - mean_squared_error: 1.0065 - rmse: 0.8707 -
mean_absolute_percentage_error: 80.1253
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 1.0090 -
mean_absolute_error: 0.3037 - mean_squared_error: 1.0028 - rmse: 0.7930 -
mean_absolute_percentage_error: 82.1940
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 1.0040 -
mean_absolute_error: 0.3020 - mean_squared_error: 0.9978 - rmse: 0.8157 -
mean_absolute_percentage_error: 83.4494
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 1.0003 -
mean_absolute_error: 0.3001 - mean_squared_error: 0.9941 - rmse: 0.7645 -
mean_absolute_percentage_error: 85.3774
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.9964 -
mean_absolute_error: 0.2988 - mean_squared_error: 0.9903 - rmse: 0.8758 -
mean_absolute_percentage_error: 86.7171
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.9924 -
mean_absolute_error: 0.2975 - mean_squared_error: 0.9864 - rmse: 0.8197 -

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mean_absolute_percentage_error: 88.7204
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.9884 -
mean_absolute_error: 0.2963 - mean_squared_error: 0.9825 - rmse: 0.8727 -
mean_absolute_percentage_error: 90.4649
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.9847 -
mean_absolute_error: 0.2953 - mean_squared_error: 0.9789 - rmse: 0.8133 -
mean_absolute_percentage_error: 92.2429
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.9809 -
mean_absolute_error: 0.2939 - mean_squared_error: 0.9752 - rmse: 0.8010 -
mean_absolute_percentage_error: 93.9696
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.9773 -
mean_absolute_error: 0.2927 - mean_squared_error: 0.9717 - rmse: 0.8533 -
mean_absolute_percentage_error: 96.2006
Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.9736 -
mean_absolute_error: 0.2912 - mean_squared_error: 0.9680 - rmse: 0.8556 -
mean_absolute_percentage_error: 97.8020
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.9701 -
mean_absolute_error: 0.2899 - mean_squared_error: 0.9646 - rmse: 0.8158 -
mean_absolute_percentage_error: 99.0883
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.9663 -
mean_absolute_error: 0.2883 - mean_squared_error: 0.9609 - rmse: 0.7649 -
mean_absolute_percentage_error: 100.3430
Epoch 42/50
10/10 [=====] - 0s 2ms/step - loss: 0.9629 -
mean_absolute_error: 0.2873 - mean_squared_error: 0.9576 - rmse: 0.8492 -
mean_absolute_percentage_error: 101.1053
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.9591 -
mean_absolute_error: 0.2859 - mean_squared_error: 0.9539 - rmse: 0.7894 -
mean_absolute_percentage_error: 101.8873
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.9560 -
mean_absolute_error: 0.2847 - mean_squared_error: 0.9509 - rmse: 0.8479 -
mean_absolute_percentage_error: 102.9081
Epoch 45/50
10/10 [=====] - 0s 3ms/step - loss: 0.9526 -
mean_absolute_error: 0.2833 - mean_squared_error: 0.9475 - rmse: 0.8487 -
mean_absolute_percentage_error: 103.4732
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.9490 -
mean_absolute_error: 0.2821 - mean_squared_error: 0.9441 - rmse: 0.8034 -

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mean_absolute_percentage_error: 104.2366
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.9466 -
mean_absolute_error: 0.2813 - mean_squared_error: 0.9417 - rmse: 0.7106 -
mean_absolute_percentage_error: 107.2141
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.9429 -
mean_absolute_error: 0.2806 - mean_squared_error: 0.9380 - rmse: 0.7804 -
mean_absolute_percentage_error: 110.1143
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.9396 -
mean_absolute_error: 0.2797 - mean_squared_error: 0.9348 - rmse: 0.8399 -
mean_absolute_percentage_error: 111.5545
Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.9364 -
mean_absolute_error: 0.2787 - mean_squared_error: 0.9317 - rmse: 0.7190 -
mean_absolute_percentage_error: 112.2773
5/5 [=====] - 0s 2ms/step - loss: 0.3299 -
mean_absolute_error: 0.2478 - mean_squared_error: 0.3252 - rmse: 0.5573 -
mean_absolute_percentage_error: 85.0113
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L1L2
-----
Training for fold 6 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.1745 -
mean_absolute_error: 0.5627 - mean_squared_error: 1.1709 - rmse: 0.9391 -
mean_absolute_percentage_error: 101.2944
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.1644 -
mean_absolute_error: 0.5579 - mean_squared_error: 1.1609 - rmse: 0.9511 -
mean_absolute_percentage_error: 102.3089
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.1514 -
mean_absolute_error: 0.5528 - mean_squared_error: 1.1480 - rmse: 0.9496 -
mean_absolute_percentage_error: 103.9775
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.1350 -
mean_absolute_error: 0.5455 - mean_squared_error: 1.1314 - rmse: 0.8964 -
mean_absolute_percentage_error: 106.5457
Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.1138 -
mean_absolute_error: 0.5360 - mean_squared_error: 1.1101 - rmse: 0.9372 -
mean_absolute_percentage_error: 111.5285
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.0888 -
mean_absolute_error: 0.5234 - mean_squared_error: 1.0848 - rmse: 0.8884 -
mean_absolute_percentage_error: 115.3040

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Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 1.0569 -
mean_absolute_error: 0.5067 - mean_squared_error: 1.0524 - rmse: 0.8658 -
mean_absolute_percentage_error: 122.9711

Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 1.0184 -
mean_absolute_error: 0.4851 - mean_squared_error: 1.0132 - rmse: 0.8254 -
mean_absolute_percentage_error: 130.3695

Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 0.9802 -
mean_absolute_error: 0.4578 - mean_squared_error: 0.9743 - rmse: 0.7802 -
mean_absolute_percentage_error: 138.5918

Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.9413 -
mean_absolute_error: 0.4263 - mean_squared_error: 0.9347 - rmse: 0.8081 -
mean_absolute_percentage_error: 144.0392

Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.9080 -
mean_absolute_error: 0.3966 - mean_squared_error: 0.9005 - rmse: 0.7775 -
mean_absolute_percentage_error: 153.7617

Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.8784 -
mean_absolute_error: 0.3723 - mean_squared_error: 0.8703 - rmse: 0.7695 -
mean_absolute_percentage_error: 165.8854

Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.8482 -
mean_absolute_error: 0.3541 - mean_squared_error: 0.8395 - rmse: 0.7231 -
mean_absolute_percentage_error: 173.0545

Epoch 14/50
10/10 [=====] - 0s 3ms/step - loss: 0.8267 -
mean_absolute_error: 0.3410 - mean_squared_error: 0.8175 - rmse: 0.7569 -
mean_absolute_percentage_error: 184.7381

Epoch 15/50
10/10 [=====] - 0s 2ms/step - loss: 0.8090 -
mean_absolute_error: 0.3298 - mean_squared_error: 0.7994 - rmse: 0.7342 -
mean_absolute_percentage_error: 196.8417

Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.7884 -
mean_absolute_error: 0.3211 - mean_squared_error: 0.7785 - rmse: 0.7041 -
mean_absolute_percentage_error: 203.8969

Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.7735 -
mean_absolute_error: 0.3114 - mean_squared_error: 0.7632 - rmse: 0.6916 -
mean_absolute_percentage_error: 208.1601

Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.7620 -
mean_absolute_error: 0.3071 - mean_squared_error: 0.7514 - rmse: 0.6491 -
mean_absolute_percentage_error: 214.5448

Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.7524 -
mean_absolute_error: 0.3050 - mean_squared_error: 0.7416 - rmse: 0.6627 -
mean_absolute_percentage_error: 218.9387

Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.7442 -
mean_absolute_error: 0.3044 - mean_squared_error: 0.7331 - rmse: 0.6802 -
mean_absolute_percentage_error: 226.2048

Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.7370 -
mean_absolute_error: 0.3032 - mean_squared_error: 0.7258 - rmse: 0.6903 -
mean_absolute_percentage_error: 230.5720

Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.7307 -
mean_absolute_error: 0.3015 - mean_squared_error: 0.7195 - rmse: 0.6974 -
mean_absolute_percentage_error: 231.5144

Epoch 23/50
10/10 [=====] - 0s 3ms/step - loss: 0.7260 -
mean_absolute_error: 0.2996 - mean_squared_error: 0.7147 - rmse: 0.6537 -
mean_absolute_percentage_error: 230.7348

Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.7217 -
mean_absolute_error: 0.2996 - mean_squared_error: 0.7103 - rmse: 0.6701 -
mean_absolute_percentage_error: 232.3155

Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.7221 -
mean_absolute_error: 0.3063 - mean_squared_error: 0.7107 - rmse: 0.6621 -
mean_absolute_percentage_error: 242.4519

Epoch 26/50
10/10 [=====] - 0s 3ms/step - loss: 0.7146 -
mean_absolute_error: 0.3074 - mean_squared_error: 0.7031 - rmse: 0.6964 -
mean_absolute_percentage_error: 243.9284

Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.7112 -
mean_absolute_error: 0.3042 - mean_squared_error: 0.6997 - rmse: 0.6655 -
mean_absolute_percentage_error: 237.1666

Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.7089 -
mean_absolute_error: 0.3013 - mean_squared_error: 0.6974 - rmse: 0.6634 -
mean_absolute_percentage_error: 232.2347

Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.7060 -
mean_absolute_error: 0.3016 - mean_squared_error: 0.6945 - rmse: 0.6536 -
mean_absolute_percentage_error: 232.6441

Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.7032 -
mean_absolute_error: 0.3025 - mean_squared_error: 0.6917 - rmse: 0.7152 -
mean_absolute_percentage_error: 234.1366

Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.7013 -
mean_absolute_error: 0.3021 - mean_squared_error: 0.6898 - rmse: 0.6476 -
mean_absolute_percentage_error: 233.2229
Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.6997 -
mean_absolute_error: 0.3029 - mean_squared_error: 0.6881 - rmse: 0.7093 -
mean_absolute_percentage_error: 235.0436
Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.6982 -
mean_absolute_error: 0.3048 - mean_squared_error: 0.6866 - rmse: 0.6457 -
mean_absolute_percentage_error: 237.9542
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.6961 -
mean_absolute_error: 0.3022 - mean_squared_error: 0.6845 - rmse: 0.7050 -
mean_absolute_percentage_error: 233.8773
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.6959 -
mean_absolute_error: 0.3034 - mean_squared_error: 0.6842 - rmse: 0.6390 -
mean_absolute_percentage_error: 234.8732
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.6922 -
mean_absolute_error: 0.3029 - mean_squared_error: 0.6805 - rmse: 0.6966 -
mean_absolute_percentage_error: 235.1099
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.6913 -
mean_absolute_error: 0.3020 - mean_squared_error: 0.6796 - rmse: 0.6560 -
mean_absolute_percentage_error: 232.7051
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.6904 -
mean_absolute_error: 0.3007 - mean_squared_error: 0.6788 - rmse: 0.6725 -
mean_absolute_percentage_error: 231.8407
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.6884 -
mean_absolute_error: 0.2988 - mean_squared_error: 0.6768 - rmse: 0.6990 -
mean_absolute_percentage_error: 229.5062
Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.6888 -
mean_absolute_error: 0.3011 - mean_squared_error: 0.6771 - rmse: 0.6965 -
mean_absolute_percentage_error: 232.5704
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.6871 -
mean_absolute_error: 0.3030 - mean_squared_error: 0.6755 - rmse: 0.6553 -
mean_absolute_percentage_error: 235.4759
Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.6857 -
mean_absolute_error: 0.3013 - mean_squared_error: 0.6740 - rmse: 0.6890 -
mean_absolute_percentage_error: 233.1606


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Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.6843 -
mean_absolute_error: 0.2992 - mean_squared_error: 0.6727 - rmse: 0.6974 -
mean_absolute_percentage_error: 230.3139
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.6832 -
mean_absolute_error: 0.2979 - mean_squared_error: 0.6716 - rmse: 0.6775 -
mean_absolute_percentage_error: 228.0222
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.6823 -
mean_absolute_error: 0.2969 - mean_squared_error: 0.6707 - rmse: 0.6292 -
mean_absolute_percentage_error: 226.0968
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.6822 -
mean_absolute_error: 0.2991 - mean_squared_error: 0.6706 - rmse: 0.6588 -
mean_absolute_percentage_error: 228.3882
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.6805 -
mean_absolute_error: 0.2986 - mean_squared_error: 0.6689 - rmse: 0.6855 -
mean_absolute_percentage_error: 227.8664
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.6791 -
mean_absolute_error: 0.2970 - mean_squared_error: 0.6676 - rmse: 0.6918 -
mean_absolute_percentage_error: 224.8680
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.6780 -
mean_absolute_error: 0.2956 - mean_squared_error: 0.6665 - rmse: 0.6934 -
mean_absolute_percentage_error: 222.5952
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.6781 -
mean_absolute_error: 0.2963 - mean_squared_error: 0.6665 - rmse: 0.6959 -
mean_absolute_percentage_error: 223.5365
5/5 [=====] - 0s 2ms/step - loss: 0.2401 -
mean_absolute_error: 0.2796 - mean_squared_error: 0.2285 - rmse: 0.4602 -
mean_absolute_percentage_error: 202.2080
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L1L2
-----
Training for fold 7 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.1414 -
mean_absolute_error: 0.5436 - mean_squared_error: 1.1377 - rmse: 0.8917 -
mean_absolute_percentage_error: 97.2805
Epoch 2/50
10/10 [=====] - 0s 3ms/step - loss: 1.1302 -
mean_absolute_error: 0.5343 - mean_squared_error: 1.1264 - rmse: 0.9559 -
mean_absolute_percentage_error: 96.2764
Epoch 3/50

```

10/10 [=====] - 0s 3ms/step - loss: 1.1147 -
mean_absolute_error: 0.5220 - mean_squared_error: 1.1106 - rmse: 0.9180 -
mean_absolute_percentage_error: 94.7259
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.0956 -
mean_absolute_error: 0.5060 - mean_squared_error: 1.0911 - rmse: 0.9115 -
mean_absolute_percentage_error: 94.4556
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.0721 -
mean_absolute_error: 0.4880 - mean_squared_error: 1.0668 - rmse: 0.8645 -
mean_absolute_percentage_error: 96.8643
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 1.0399 -
mean_absolute_error: 0.4652 - mean_squared_error: 1.0339 - rmse: 0.9018 -
mean_absolute_percentage_error: 99.2118
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 1.0092 -
mean_absolute_error: 0.4428 - mean_squared_error: 1.0024 - rmse: 0.8161 -
mean_absolute_percentage_error: 106.7977
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 0.9756 -
mean_absolute_error: 0.4226 - mean_squared_error: 0.9680 - rmse: 0.7562 -
mean_absolute_percentage_error: 116.5388
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 0.9466 -
mean_absolute_error: 0.4071 - mean_squared_error: 0.9383 - rmse: 0.8380 -
mean_absolute_percentage_error: 128.9339
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.9222 -
mean_absolute_error: 0.3974 - mean_squared_error: 0.9132 - rmse: 0.7656 -
mean_absolute_percentage_error: 147.9203
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.8950 -
mean_absolute_error: 0.3905 - mean_squared_error: 0.8854 - rmse: 0.8102 -
mean_absolute_percentage_error: 159.9084
Epoch 12/50
10/10 [=====] - 0s 3ms/step - loss: 0.8721 -
mean_absolute_error: 0.3854 - mean_squared_error: 0.8623 - rmse: 0.7874 -
mean_absolute_percentage_error: 173.3908
Epoch 13/50
10/10 [=====] - 0s 4ms/step - loss: 0.8547 -
mean_absolute_error: 0.3801 - mean_squared_error: 0.8447 - rmse: 0.7540 -
mean_absolute_percentage_error: 186.5370
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.8397 -
mean_absolute_error: 0.3736 - mean_squared_error: 0.8294 - rmse: 0.7580 -
mean_absolute_percentage_error: 195.4332
Epoch 15/50

10/10 [=====] - 0s 2ms/step - loss: 0.8264 -
mean_absolute_error: 0.3673 - mean_squared_error: 0.8159 - rmse: 0.7169 -
mean_absolute_percentage_error: 202.1286
Epoch 16/50
10/10 [=====] - 0s 3ms/step - loss: 0.8165 -
mean_absolute_error: 0.3610 - mean_squared_error: 0.8058 - rmse: 0.7393 -
mean_absolute_percentage_error: 209.0889
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.8054 -
mean_absolute_error: 0.3541 - mean_squared_error: 0.7945 - rmse: 0.7389 -
mean_absolute_percentage_error: 213.6591
Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.7979 -
mean_absolute_error: 0.3459 - mean_squared_error: 0.7869 - rmse: 0.7163 -
mean_absolute_percentage_error: 216.6381
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.7872 -
mean_absolute_error: 0.3363 - mean_squared_error: 0.7762 - rmse: 0.6797 -
mean_absolute_percentage_error: 216.0565
Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.7782 -
mean_absolute_error: 0.3254 - mean_squared_error: 0.7671 - rmse: 0.6936 -
mean_absolute_percentage_error: 214.4623
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.7689 -
mean_absolute_error: 0.3195 - mean_squared_error: 0.7577 - rmse: 0.7453 -
mean_absolute_percentage_error: 217.7852
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.7562 -
mean_absolute_error: 0.3142 - mean_squared_error: 0.7448 - rmse: 0.7189 -
mean_absolute_percentage_error: 219.8614
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.7467 -
mean_absolute_error: 0.3068 - mean_squared_error: 0.7352 - rmse: 0.6998 -
mean_absolute_percentage_error: 216.4402
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.7406 -
mean_absolute_error: 0.3064 - mean_squared_error: 0.7290 - rmse: 0.6282 -
mean_absolute_percentage_error: 218.3710
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.7316 -
mean_absolute_error: 0.3043 - mean_squared_error: 0.7199 - rmse: 0.6797 -
mean_absolute_percentage_error: 219.1040
Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.7280 -
mean_absolute_error: 0.3030 - mean_squared_error: 0.7161 - rmse: 0.6506 -
mean_absolute_percentage_error: 218.0800
Epoch 27/50

10/10 [=====] - 0s 2ms/step - loss: 0.7244 -
mean_absolute_error: 0.3006 - mean_squared_error: 0.7125 - rmse: 0.6711 -
mean_absolute_percentage_error: 218.5365
Epoch 28/50

10/10 [=====] - 0s 4ms/step - loss: 0.7204 -
mean_absolute_error: 0.2958 - mean_squared_error: 0.7086 - rmse: 0.6613 -
mean_absolute_percentage_error: 214.0144
Epoch 29/50

10/10 [=====] - 0s 3ms/step - loss: 0.7183 -
mean_absolute_error: 0.2960 - mean_squared_error: 0.7064 - rmse: 0.6424 -
mean_absolute_percentage_error: 216.8886
Epoch 30/50

10/10 [=====] - 0s 2ms/step - loss: 0.7147 -
mean_absolute_error: 0.2957 - mean_squared_error: 0.7028 - rmse: 0.7023 -
mean_absolute_percentage_error: 219.5697
Epoch 31/50

10/10 [=====] - 0s 2ms/step - loss: 0.7129 -
mean_absolute_error: 0.2952 - mean_squared_error: 0.7011 - rmse: 0.6842 -
mean_absolute_percentage_error: 220.5992
Epoch 32/50

10/10 [=====] - 0s 3ms/step - loss: 0.7118 -
mean_absolute_error: 0.2944 - mean_squared_error: 0.7000 - rmse: 0.7136 -
mean_absolute_percentage_error: 219.0699
Epoch 33/50

10/10 [=====] - 0s 3ms/step - loss: 0.7106 -
mean_absolute_error: 0.2942 - mean_squared_error: 0.6988 - rmse: 0.6993 -
mean_absolute_percentage_error: 220.3043
Epoch 34/50

10/10 [=====] - 0s 2ms/step - loss: 0.7080 -
mean_absolute_error: 0.2935 - mean_squared_error: 0.6962 - rmse: 0.6823 -
mean_absolute_percentage_error: 223.1818
Epoch 35/50

10/10 [=====] - 0s 2ms/step - loss: 0.7065 -
mean_absolute_error: 0.2923 - mean_squared_error: 0.6947 - rmse: 0.6699 -
mean_absolute_percentage_error: 222.0030
Epoch 36/50

10/10 [=====] - 0s 3ms/step - loss: 0.7060 -
mean_absolute_error: 0.2927 - mean_squared_error: 0.6942 - rmse: 0.6601 -
mean_absolute_percentage_error: 223.4487
Epoch 37/50

10/10 [=====] - 0s 3ms/step - loss: 0.7041 -
mean_absolute_error: 0.2919 - mean_squared_error: 0.6923 - rmse: 0.6563 -
mean_absolute_percentage_error: 222.2342
Epoch 38/50

10/10 [=====] - 0s 2ms/step - loss: 0.7030 -
mean_absolute_error: 0.2902 - mean_squared_error: 0.6913 - rmse: 0.7065 -
mean_absolute_percentage_error: 220.0668
Epoch 39/50

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10/10 [=====] - 0s 3ms/step - loss: 0.7020 -
mean_absolute_error: 0.2891 - mean_squared_error: 0.6903 - rmse: 0.6843 -
mean_absolute_percentage_error: 219.8244
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.7007 -
mean_absolute_error: 0.2885 - mean_squared_error: 0.6889 - rmse: 0.6939 -
mean_absolute_percentage_error: 218.1978
Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.7001 -
mean_absolute_error: 0.2879 - mean_squared_error: 0.6883 - rmse: 0.6842 -
mean_absolute_percentage_error: 216.9538
Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.6990 -
mean_absolute_error: 0.2877 - mean_squared_error: 0.6873 - rmse: 0.6692 -
mean_absolute_percentage_error: 217.5139
Epoch 43/50
10/10 [=====] - 0s 2ms/step - loss: 0.6996 -
mean_absolute_error: 0.2860 - mean_squared_error: 0.6880 - rmse: 0.6506 -
mean_absolute_percentage_error: 214.3881
Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.6978 -
mean_absolute_error: 0.2843 - mean_squared_error: 0.6862 - rmse: 0.6321 -
mean_absolute_percentage_error: 212.0170
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.6961 -
mean_absolute_error: 0.2847 - mean_squared_error: 0.6846 - rmse: 0.6675 -
mean_absolute_percentage_error: 212.6944
Epoch 46/50
10/10 [=====] - 0s 2ms/step - loss: 0.6952 -
mean_absolute_error: 0.2859 - mean_squared_error: 0.6836 - rmse: 0.6594 -
mean_absolute_percentage_error: 214.1743
Epoch 47/50
10/10 [=====] - 0s 2ms/step - loss: 0.6950 -
mean_absolute_error: 0.2875 - mean_squared_error: 0.6833 - rmse: 0.6447 -
mean_absolute_percentage_error: 217.1786
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.6937 -
mean_absolute_error: 0.2872 - mean_squared_error: 0.6821 - rmse: 0.6236 -
mean_absolute_percentage_error: 216.1402
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.6925 -
mean_absolute_error: 0.2868 - mean_squared_error: 0.6809 - rmse: 0.6702 -
mean_absolute_percentage_error: 214.6612
Epoch 50/50
10/10 [=====] - 0s 4ms/step - loss: 0.6924 -
mean_absolute_error: 0.2858 - mean_squared_error: 0.6808 - rmse: 0.6552 -
mean_absolute_percentage_error: 213.2102
5/5 [=====] - 0s 2ms/step - loss: 0.2382 -

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mean_absolute_error: 0.2710 - mean_squared_error: 0.2266 - rmse: 0.4616 -
mean_absolute_percentage_error: 197.4540
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L1L2
-----
Training for fold 8 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 0.9659 -
mean_absolute_error: 0.5415 - mean_squared_error: 0.9611 - rmse: 0.8943 -
mean_absolute_percentage_error: 97.1930
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 0.9517 -
mean_absolute_error: 0.5304 - mean_squared_error: 0.9469 - rmse: 0.8313 -
mean_absolute_percentage_error: 95.9860
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 0.9327 -
mean_absolute_error: 0.5176 - mean_squared_error: 0.9278 - rmse: 0.8729 -
mean_absolute_percentage_error: 96.6997
Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 0.9060 -
mean_absolute_error: 0.5010 - mean_squared_error: 0.9008 - rmse: 0.8781 -
mean_absolute_percentage_error: 98.6923
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 0.8675 -
mean_absolute_error: 0.4807 - mean_squared_error: 0.8619 - rmse: 0.8018 -
mean_absolute_percentage_error: 103.4639
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 0.8320 -
mean_absolute_error: 0.4602 - mean_squared_error: 0.8258 - rmse: 0.7959 -
mean_absolute_percentage_error: 110.6949
Epoch 7/50
10/10 [=====] - 0s 2ms/step - loss: 0.7858 -
mean_absolute_error: 0.4354 - mean_squared_error: 0.7791 - rmse: 0.7735 -
mean_absolute_percentage_error: 119.7307
Epoch 8/50
10/10 [=====] - 0s 3ms/step - loss: 0.7424 -
mean_absolute_error: 0.4103 - mean_squared_error: 0.7351 - rmse: 0.7607 -
mean_absolute_percentage_error: 132.8772
Epoch 9/50
10/10 [=====] - 0s 3ms/step - loss: 0.7137 -
mean_absolute_error: 0.3909 - mean_squared_error: 0.7057 - rmse: 0.6619 -
mean_absolute_percentage_error: 147.5375
Epoch 10/50
10/10 [=====] - 0s 4ms/step - loss: 0.6799 -
mean_absolute_error: 0.3766 - mean_squared_error: 0.6712 - rmse: 0.7325 -
mean_absolute_percentage_error: 163.6564
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.6564 -

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mean_absolute_error: 0.3693 - mean_squared_error: 0.6473 - rmse: 0.7018 -
mean_absolute_percentage_error: 172.3851
Epoch 12/50
10/10 [=====] - 0s 4ms/step - loss: 0.6375 -
mean_absolute_error: 0.3636 - mean_squared_error: 0.6280 - rmse: 0.7037 -
mean_absolute_percentage_error: 185.0100
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.6238 -
mean_absolute_error: 0.3589 - mean_squared_error: 0.6140 - rmse: 0.6727 -
mean_absolute_percentage_error: 195.3023
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.6108 -
mean_absolute_error: 0.3528 - mean_squared_error: 0.6008 - rmse: 0.6535 -
mean_absolute_percentage_error: 198.9773
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.6012 -
mean_absolute_error: 0.3468 - mean_squared_error: 0.5910 - rmse: 0.6854 -
mean_absolute_percentage_error: 201.7342
Epoch 16/50
10/10 [=====] - 0s 4ms/step - loss: 0.5909 -
mean_absolute_error: 0.3411 - mean_squared_error: 0.5806 - rmse: 0.6723 -
mean_absolute_percentage_error: 206.4558
Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.5842 -
mean_absolute_error: 0.3348 - mean_squared_error: 0.5737 - rmse: 0.6027 -
mean_absolute_percentage_error: 207.7724
Epoch 18/50
10/10 [=====] - 0s 3ms/step - loss: 0.5753 -
mean_absolute_error: 0.3234 - mean_squared_error: 0.5649 - rmse: 0.6051 -
mean_absolute_percentage_error: 202.5300
Epoch 19/50
10/10 [=====] - 0s 3ms/step - loss: 0.5652 -
mean_absolute_error: 0.3144 - mean_squared_error: 0.5548 - rmse: 0.6066 -
mean_absolute_percentage_error: 198.6496
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.5576 -
mean_absolute_error: 0.3108 - mean_squared_error: 0.5471 - rmse: 0.6492 -
mean_absolute_percentage_error: 199.3218
Epoch 21/50
10/10 [=====] - 0s 3ms/step - loss: 0.5499 -
mean_absolute_error: 0.3060 - mean_squared_error: 0.5393 - rmse: 0.6372 -
mean_absolute_percentage_error: 199.8818
Epoch 22/50
10/10 [=====] - 0s 3ms/step - loss: 0.5436 -
mean_absolute_error: 0.2991 - mean_squared_error: 0.5329 - rmse: 0.6342 -
mean_absolute_percentage_error: 196.5422
Epoch 23/50
10/10 [=====] - 0s 4ms/step - loss: 0.5366 -

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mean_absolute_error: 0.2945 - mean_squared_error: 0.5260 - rmse: 0.5988 -
mean_absolute_percentage_error: 195.4328
Epoch 24/50
10/10 [=====] - 0s 3ms/step - loss: 0.5304 -
mean_absolute_error: 0.2918 - mean_squared_error: 0.5196 - rmse: 0.6073 -
mean_absolute_percentage_error: 195.7645
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.5238 -
mean_absolute_error: 0.2894 - mean_squared_error: 0.5129 - rmse: 0.5899 -
mean_absolute_percentage_error: 194.6034
Epoch 26/50
10/10 [=====] - 0s 4ms/step - loss: 0.5170 -
mean_absolute_error: 0.2828 - mean_squared_error: 0.5061 - rmse: 0.5820 -
mean_absolute_percentage_error: 189.6844
Epoch 27/50
10/10 [=====] - 0s 3ms/step - loss: 0.5118 -
mean_absolute_error: 0.2782 - mean_squared_error: 0.5009 - rmse: 0.6252 -
mean_absolute_percentage_error: 185.9996
Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.5084 -
mean_absolute_error: 0.2743 - mean_squared_error: 0.4975 - rmse: 0.5952 -
mean_absolute_percentage_error: 183.4553
Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.5057 -
mean_absolute_error: 0.2742 - mean_squared_error: 0.4947 - rmse: 0.5551 -
mean_absolute_percentage_error: 184.1406
Epoch 30/50
10/10 [=====] - 0s 3ms/step - loss: 0.5019 -
mean_absolute_error: 0.2732 - mean_squared_error: 0.4910 - rmse: 0.5964 -
mean_absolute_percentage_error: 183.7361
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.4994 -
mean_absolute_error: 0.2729 - mean_squared_error: 0.4883 - rmse: 0.6000 -
mean_absolute_percentage_error: 184.0774
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.4979 -
mean_absolute_error: 0.2706 - mean_squared_error: 0.4869 - rmse: 0.5662 -
mean_absolute_percentage_error: 181.3446
Epoch 33/50
10/10 [=====] - 0s 4ms/step - loss: 0.4950 -
mean_absolute_error: 0.2694 - mean_squared_error: 0.4840 - rmse: 0.5999 -
mean_absolute_percentage_error: 179.7222
Epoch 34/50
10/10 [=====] - 0s 3ms/step - loss: 0.4932 -
mean_absolute_error: 0.2704 - mean_squared_error: 0.4821 - rmse: 0.6007 -
mean_absolute_percentage_error: 181.1813
Epoch 35/50
10/10 [=====] - 0s 3ms/step - loss: 0.4912 -

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mean_absolute_error: 0.2701 - mean_squared_error: 0.4801 - rmse: 0.5806 -
mean_absolute_percentage_error: 180.7960
Epoch 36/50
10/10 [=====] - 0s 3ms/step - loss: 0.4893 -
mean_absolute_error: 0.2655 - mean_squared_error: 0.4783 - rmse: 0.5871 -
mean_absolute_percentage_error: 175.3706
Epoch 37/50
10/10 [=====] - 0s 3ms/step - loss: 0.4872 -
mean_absolute_error: 0.2647 - mean_squared_error: 0.4761 - rmse: 0.5914 -
mean_absolute_percentage_error: 174.7695
Epoch 38/50
10/10 [=====] - 0s 4ms/step - loss: 0.4847 -
mean_absolute_error: 0.2632 - mean_squared_error: 0.4736 - rmse: 0.6121 -
mean_absolute_percentage_error: 173.8210
Epoch 39/50
10/10 [=====] - 0s 3ms/step - loss: 0.4835 -
mean_absolute_error: 0.2624 - mean_squared_error: 0.4724 - rmse: 0.5874 -
mean_absolute_percentage_error: 172.8867
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.4821 -
mean_absolute_error: 0.2629 - mean_squared_error: 0.4709 - rmse: 0.5663 -
mean_absolute_percentage_error: 173.9085
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.4808 -
mean_absolute_error: 0.2625 - mean_squared_error: 0.4695 - rmse: 0.5564 -
mean_absolute_percentage_error: 173.5442
Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.4790 -
mean_absolute_error: 0.2606 - mean_squared_error: 0.4678 - rmse: 0.5862 -
mean_absolute_percentage_error: 170.6977
Epoch 43/50
10/10 [=====] - 0s 4ms/step - loss: 0.4779 -
mean_absolute_error: 0.2579 - mean_squared_error: 0.4667 - rmse: 0.5707 -
mean_absolute_percentage_error: 168.7554
Epoch 44/50
10/10 [=====] - 0s 4ms/step - loss: 0.4764 -
mean_absolute_error: 0.2559 - mean_squared_error: 0.4652 - rmse: 0.5642 -
mean_absolute_percentage_error: 166.0345
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.4755 -
mean_absolute_error: 0.2563 - mean_squared_error: 0.4642 - rmse: 0.5772 -
mean_absolute_percentage_error: 166.4240
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.4744 -
mean_absolute_error: 0.2578 - mean_squared_error: 0.4631 - rmse: 0.5785 -
mean_absolute_percentage_error: 167.7832
Epoch 47/50
10/10 [=====] - 0s 4ms/step - loss: 0.4729 -

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mean_absolute_error: 0.2570 - mean_squared_error: 0.4615 - rmse: 0.5669 -
mean_absolute_percentage_error: 166.4673
Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.4720 -
mean_absolute_error: 0.2571 - mean_squared_error: 0.4606 - rmse: 0.5744 -
mean_absolute_percentage_error: 166.2026
Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.4714 -
mean_absolute_error: 0.2540 - mean_squared_error: 0.4600 - rmse: 0.5833 -
mean_absolute_percentage_error: 163.1918
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.4702 -
mean_absolute_error: 0.2533 - mean_squared_error: 0.4587 - rmse: 0.5792 -
mean_absolute_percentage_error: 161.3181
5/5 [=====] - 0s 2ms/step - loss: 0.2176 -
mean_absolute_error: 0.2522 - mean_squared_error: 0.2062 - rmse: 0.4415 -
mean_absolute_percentage_error: 195.8632
5/5 [=====] - 0s 2ms/step
Regularizer chosen is L1L2
-----
Training for fold 9 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.0868 -
mean_absolute_error: 0.5671 - mean_squared_error: 1.0832 - rmse: 0.8766 -
mean_absolute_percentage_error: 98.7247
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.0758 -
mean_absolute_error: 0.5605 - mean_squared_error: 1.0722 - rmse: 0.9608 -
mean_absolute_percentage_error: 97.8846
Epoch 3/50
10/10 [=====] - 0s 2ms/step - loss: 1.0619 -
mean_absolute_error: 0.5505 - mean_squared_error: 1.0581 - rmse: 0.8785 -
mean_absolute_percentage_error: 96.9022
Epoch 4/50
10/10 [=====] - 0s 2ms/step - loss: 1.0429 -
mean_absolute_error: 0.5358 - mean_squared_error: 1.0387 - rmse: 0.9155 -
mean_absolute_percentage_error: 95.8137
Epoch 5/50
10/10 [=====] - 0s 2ms/step - loss: 1.0183 -
mean_absolute_error: 0.5157 - mean_squared_error: 1.0138 - rmse: 0.8817 -
mean_absolute_percentage_error: 94.5239
Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 0.9903 -
mean_absolute_error: 0.4914 - mean_squared_error: 0.9853 - rmse: 0.8858 -
mean_absolute_percentage_error: 92.3500
Epoch 7/50
10/10 [=====] - 0s 3ms/step - loss: 0.9593 -
mean_absolute_error: 0.4625 - mean_squared_error: 0.9537 - rmse: 0.8203 -

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mean_absolute_percentage_error: 92.8249
Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 0.9270 -
mean_absolute_error: 0.4330 - mean_squared_error: 0.9208 - rmse: 0.8167 -
mean_absolute_percentage_error: 93.4029
Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 0.8964 -
mean_absolute_error: 0.4087 - mean_squared_error: 0.8897 - rmse: 0.8543 -
mean_absolute_percentage_error: 96.2224
Epoch 10/50
10/10 [=====] - 0s 2ms/step - loss: 0.8682 -
mean_absolute_error: 0.3878 - mean_squared_error: 0.8611 - rmse: 0.7942 -
mean_absolute_percentage_error: 101.9861
Epoch 11/50
10/10 [=====] - 0s 2ms/step - loss: 0.8362 -
mean_absolute_error: 0.3707 - mean_squared_error: 0.8287 - rmse: 0.7814 -
mean_absolute_percentage_error: 108.6337
Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.8083 -
mean_absolute_error: 0.3544 - mean_squared_error: 0.8005 - rmse: 0.7388 -
mean_absolute_percentage_error: 115.5560
Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.7790 -
mean_absolute_error: 0.3385 - mean_squared_error: 0.7708 - rmse: 0.7670 -
mean_absolute_percentage_error: 123.8547
Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.7547 -
mean_absolute_error: 0.3249 - mean_squared_error: 0.7462 - rmse: 0.7014 -
mean_absolute_percentage_error: 131.2212
Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.7301 -
mean_absolute_error: 0.3111 - mean_squared_error: 0.7212 - rmse: 0.6975 -
mean_absolute_percentage_error: 137.0297
Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.7123 -
mean_absolute_error: 0.3026 - mean_squared_error: 0.7031 - rmse: 0.6637 -
mean_absolute_percentage_error: 143.4041
Epoch 17/50
10/10 [=====] - 0s 3ms/step - loss: 0.6914 -
mean_absolute_error: 0.2956 - mean_squared_error: 0.6819 - rmse: 0.6889 -
mean_absolute_percentage_error: 151.4797
Epoch 18/50
10/10 [=====] - 0s 4ms/step - loss: 0.6753 -
mean_absolute_error: 0.2878 - mean_squared_error: 0.6656 - rmse: 0.6160 -
mean_absolute_percentage_error: 152.9356
Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.6649 -
mean_absolute_error: 0.2841 - mean_squared_error: 0.6548 - rmse: 0.6686 -

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mean_absolute_percentage_error: 160.7338
Epoch 20/50
10/10 [=====] - 0s 3ms/step - loss: 0.6531 -
mean_absolute_error: 0.2835 - mean_squared_error: 0.6428 - rmse: 0.6692 -
mean_absolute_percentage_error: 164.9993
Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.6454 -
mean_absolute_error: 0.2819 - mean_squared_error: 0.6349 - rmse: 0.6486 -
mean_absolute_percentage_error: 170.0931
Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.6367 -
mean_absolute_error: 0.2801 - mean_squared_error: 0.6261 - rmse: 0.6443 -
mean_absolute_percentage_error: 172.3154
Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.6304 -
mean_absolute_error: 0.2796 - mean_squared_error: 0.6197 - rmse: 0.6379 -
mean_absolute_percentage_error: 175.8011
Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.6283 -
mean_absolute_error: 0.2823 - mean_squared_error: 0.6174 - rmse: 0.6196 -
mean_absolute_percentage_error: 180.8616
Epoch 25/50
10/10 [=====] - 0s 3ms/step - loss: 0.6226 -
mean_absolute_error: 0.2839 - mean_squared_error: 0.6116 - rmse: 0.6453 -
mean_absolute_percentage_error: 185.1278
Epoch 26/50
10/10 [=====] - 0s 4ms/step - loss: 0.6193 -
mean_absolute_error: 0.2840 - mean_squared_error: 0.6083 - rmse: 0.6482 -
mean_absolute_percentage_error: 186.1912
Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.6159 -
mean_absolute_error: 0.2827 - mean_squared_error: 0.6049 - rmse: 0.6211 -
mean_absolute_percentage_error: 186.3014
Epoch 28/50
10/10 [=====] - 0s 3ms/step - loss: 0.6134 -
mean_absolute_error: 0.2809 - mean_squared_error: 0.6024 - rmse: 0.6607 -
mean_absolute_percentage_error: 184.7926
Epoch 29/50
10/10 [=====] - 0s 4ms/step - loss: 0.6120 -
mean_absolute_error: 0.2829 - mean_squared_error: 0.6010 - rmse: 0.6536 -
mean_absolute_percentage_error: 187.9106
Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.6092 -
mean_absolute_error: 0.2841 - mean_squared_error: 0.5982 - rmse: 0.6304 -
mean_absolute_percentage_error: 189.2460
Epoch 31/50
10/10 [=====] - 0s 2ms/step - loss: 0.6066 -
mean_absolute_error: 0.2841 - mean_squared_error: 0.5955 - rmse: 0.6428 -

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mean_absolute_percentage_error: 190.3006
Epoch 32/50
10/10 [=====] - 0s 3ms/step - loss: 0.6054 -
mean_absolute_error: 0.2835 - mean_squared_error: 0.5943 - rmse: 0.6354 -
mean_absolute_percentage_error: 190.5230
Epoch 33/50
10/10 [=====] - 0s 3ms/step - loss: 0.6039 -
mean_absolute_error: 0.2835 - mean_squared_error: 0.5928 - rmse: 0.6564 -
mean_absolute_percentage_error: 191.4353
Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.6026 -
mean_absolute_error: 0.2844 - mean_squared_error: 0.5916 - rmse: 0.6610 -
mean_absolute_percentage_error: 192.3479
Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.6011 -
mean_absolute_error: 0.2846 - mean_squared_error: 0.5900 - rmse: 0.6318 -
mean_absolute_percentage_error: 193.1797
Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.6001 -
mean_absolute_error: 0.2851 - mean_squared_error: 0.5890 - rmse: 0.6108 -
mean_absolute_percentage_error: 194.2508
Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.6005 -
mean_absolute_error: 0.2844 - mean_squared_error: 0.5895 - rmse: 0.5694 -
mean_absolute_percentage_error: 193.9414
Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.5987 -
mean_absolute_error: 0.2849 - mean_squared_error: 0.5876 - rmse: 0.6497 -
mean_absolute_percentage_error: 195.0571
Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.5981 -
mean_absolute_error: 0.2866 - mean_squared_error: 0.5871 - rmse: 0.6180 -
mean_absolute_percentage_error: 198.1381
Epoch 40/50
10/10 [=====] - 0s 3ms/step - loss: 0.5965 -
mean_absolute_error: 0.2850 - mean_squared_error: 0.5855 - rmse: 0.6354 -
mean_absolute_percentage_error: 196.8247
Epoch 41/50
10/10 [=====] - 0s 3ms/step - loss: 0.5954 -
mean_absolute_error: 0.2838 - mean_squared_error: 0.5844 - rmse: 0.6146 -
mean_absolute_percentage_error: 194.9531
Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.5936 -
mean_absolute_error: 0.2840 - mean_squared_error: 0.5826 - rmse: 0.6230 -
mean_absolute_percentage_error: 195.6484
Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.5932 -
mean_absolute_error: 0.2838 - mean_squared_error: 0.5822 - rmse: 0.5963 -

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mean_absolute_percentage_error: 195.2936
Epoch 44/50
10/10 [=====] - 0s 2ms/step - loss: 0.5932 -
mean_absolute_error: 0.2837 - mean_squared_error: 0.5823 - rmse: 0.5699 -
mean_absolute_percentage_error: 195.3839
Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.5918 -
mean_absolute_error: 0.2841 - mean_squared_error: 0.5809 - rmse: 0.5978 -
mean_absolute_percentage_error: 196.1924
Epoch 46/50
10/10 [=====] - 0s 3ms/step - loss: 0.5903 -
mean_absolute_error: 0.2828 - mean_squared_error: 0.5795 - rmse: 0.6243 -
mean_absolute_percentage_error: 194.6192
Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.5891 -
mean_absolute_error: 0.2823 - mean_squared_error: 0.5783 - rmse: 0.6585 -
mean_absolute_percentage_error: 193.6106
Epoch 48/50
10/10 [=====] - 0s 2ms/step - loss: 0.5883 -
mean_absolute_error: 0.2825 - mean_squared_error: 0.5775 - rmse: 0.6515 -
mean_absolute_percentage_error: 193.4379
Epoch 49/50
10/10 [=====] - 0s 2ms/step - loss: 0.5875 -
mean_absolute_error: 0.2818 - mean_squared_error: 0.5766 - rmse: 0.6498 -
mean_absolute_percentage_error: 192.8458
Epoch 50/50
10/10 [=====] - 0s 3ms/step - loss: 0.5870 -
mean_absolute_error: 0.2811 - mean_squared_error: 0.5762 - rmse: 0.6317 -
mean_absolute_percentage_error: 191.9883
5/5 [=====] - 0s 2ms/step - loss: 0.2429 -
mean_absolute_error: 0.2860 - mean_squared_error: 0.2321 - rmse: 0.4638 -
mean_absolute_percentage_error: 209.5625
5/5 [=====] - 0s 1ms/step
Regularizer chosen is L1L2
-----
Training for fold 10 ...
Epoch 1/50
10/10 [=====] - 1s 2ms/step - loss: 1.1033 -
mean_absolute_error: 0.5605 - mean_squared_error: 1.0993 - rmse: 0.8677 -
mean_absolute_percentage_error: 101.8829
Epoch 2/50
10/10 [=====] - 0s 2ms/step - loss: 1.0862 -
mean_absolute_error: 0.5512 - mean_squared_error: 1.0824 - rmse: 0.8924 -
mean_absolute_percentage_error: 101.2947
Epoch 3/50
10/10 [=====] - 0s 3ms/step - loss: 1.0694 -
mean_absolute_error: 0.5412 - mean_squared_error: 1.0655 - rmse: 0.9004 -
mean_absolute_percentage_error: 102.2646

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Epoch 4/50
10/10 [=====] - 0s 3ms/step - loss: 1.0459 -
mean_absolute_error: 0.5269 - mean_squared_error: 1.0417 - rmse: 0.8708 -
mean_absolute_percentage_error: 102.2546

Epoch 5/50
10/10 [=====] - 0s 3ms/step - loss: 1.0183 -
mean_absolute_error: 0.5084 - mean_squared_error: 1.0136 - rmse: 0.8930 -
mean_absolute_percentage_error: 103.6189

Epoch 6/50
10/10 [=====] - 0s 3ms/step - loss: 0.9862 -
mean_absolute_error: 0.4854 - mean_squared_error: 0.9808 - rmse: 0.8470 -
mean_absolute_percentage_error: 107.5820

Epoch 7/50
10/10 [=====] - 0s 4ms/step - loss: 0.9479 -
mean_absolute_error: 0.4578 - mean_squared_error: 0.9419 - rmse: 0.8294 -
mean_absolute_percentage_error: 111.6376

Epoch 8/50
10/10 [=====] - 0s 2ms/step - loss: 0.9164 -
mean_absolute_error: 0.4287 - mean_squared_error: 0.9097 - rmse: 0.7662 -
mean_absolute_percentage_error: 119.7256

Epoch 9/50
10/10 [=====] - 0s 2ms/step - loss: 0.8768 -
mean_absolute_error: 0.4026 - mean_squared_error: 0.8696 - rmse: 0.7944 -
mean_absolute_percentage_error: 127.4605

Epoch 10/50
10/10 [=====] - 0s 3ms/step - loss: 0.8493 -
mean_absolute_error: 0.3854 - mean_squared_error: 0.8416 - rmse: 0.7415 -
mean_absolute_percentage_error: 140.4378

Epoch 11/50
10/10 [=====] - 0s 3ms/step - loss: 0.8240 -
mean_absolute_error: 0.3741 - mean_squared_error: 0.8159 - rmse: 0.7089 -
mean_absolute_percentage_error: 153.4240

Epoch 12/50
10/10 [=====] - 0s 2ms/step - loss: 0.7967 -
mean_absolute_error: 0.3647 - mean_squared_error: 0.7884 - rmse: 0.7564 -
mean_absolute_percentage_error: 162.0545

Epoch 13/50
10/10 [=====] - 0s 2ms/step - loss: 0.7771 -
mean_absolute_error: 0.3571 - mean_squared_error: 0.7686 - rmse: 0.7347 -
mean_absolute_percentage_error: 172.7283

Epoch 14/50
10/10 [=====] - 0s 2ms/step - loss: 0.7589 -
mean_absolute_error: 0.3484 - mean_squared_error: 0.7503 - rmse: 0.7341 -
mean_absolute_percentage_error: 183.6427

Epoch 15/50
10/10 [=====] - 0s 3ms/step - loss: 0.7411 -
mean_absolute_error: 0.3381 - mean_squared_error: 0.7323 - rmse: 0.6657 -
mean_absolute_percentage_error: 189.1625

Epoch 16/50
10/10 [=====] - 0s 2ms/step - loss: 0.7278 -
mean_absolute_error: 0.3298 - mean_squared_error: 0.7188 - rmse: 0.7298 -
mean_absolute_percentage_error: 197.4011

Epoch 17/50
10/10 [=====] - 0s 2ms/step - loss: 0.7151 -
mean_absolute_error: 0.3213 - mean_squared_error: 0.7058 - rmse: 0.6916 -
mean_absolute_percentage_error: 205.3697

Epoch 18/50
10/10 [=====] - 0s 2ms/step - loss: 0.6985 -
mean_absolute_error: 0.3103 - mean_squared_error: 0.6890 - rmse: 0.6958 -
mean_absolute_percentage_error: 206.2339

Epoch 19/50
10/10 [=====] - 0s 2ms/step - loss: 0.6876 -
mean_absolute_error: 0.2993 - mean_squared_error: 0.6779 - rmse: 0.6378 -
mean_absolute_percentage_error: 205.1687

Epoch 20/50
10/10 [=====] - 0s 2ms/step - loss: 0.6798 -
mean_absolute_error: 0.2947 - mean_squared_error: 0.6698 - rmse: 0.6424 -
mean_absolute_percentage_error: 209.1211

Epoch 21/50
10/10 [=====] - 0s 2ms/step - loss: 0.6694 -
mean_absolute_error: 0.2893 - mean_squared_error: 0.6593 - rmse: 0.6695 -
mean_absolute_percentage_error: 210.3290

Epoch 22/50
10/10 [=====] - 0s 2ms/step - loss: 0.6623 -
mean_absolute_error: 0.2865 - mean_squared_error: 0.6520 - rmse: 0.6840 -
mean_absolute_percentage_error: 211.9633

Epoch 23/50
10/10 [=====] - 0s 2ms/step - loss: 0.6578 -
mean_absolute_error: 0.2839 - mean_squared_error: 0.6475 - rmse: 0.5563 -
mean_absolute_percentage_error: 210.6912

Epoch 24/50
10/10 [=====] - 0s 2ms/step - loss: 0.6529 -
mean_absolute_error: 0.2860 - mean_squared_error: 0.6425 - rmse: 0.6412 -
mean_absolute_percentage_error: 215.1325

Epoch 25/50
10/10 [=====] - 0s 2ms/step - loss: 0.6490 -
mean_absolute_error: 0.2887 - mean_squared_error: 0.6384 - rmse: 0.5850 -
mean_absolute_percentage_error: 219.3883

Epoch 26/50
10/10 [=====] - 0s 2ms/step - loss: 0.6448 -
mean_absolute_error: 0.2871 - mean_squared_error: 0.6342 - rmse: 0.6818 -
mean_absolute_percentage_error: 219.1368

Epoch 27/50
10/10 [=====] - 0s 2ms/step - loss: 0.6419 -
mean_absolute_error: 0.2857 - mean_squared_error: 0.6312 - rmse: 0.6342 -
mean_absolute_percentage_error: 217.1158

Epoch 28/50
10/10 [=====] - 0s 2ms/step - loss: 0.6405 -
mean_absolute_error: 0.2870 - mean_squared_error: 0.6297 - rmse: 0.5985 -
mean_absolute_percentage_error: 219.2581

Epoch 29/50
10/10 [=====] - 0s 2ms/step - loss: 0.6374 -
mean_absolute_error: 0.2872 - mean_squared_error: 0.6266 - rmse: 0.6421 -
mean_absolute_percentage_error: 219.5813

Epoch 30/50
10/10 [=====] - 0s 2ms/step - loss: 0.6353 -
mean_absolute_error: 0.2880 - mean_squared_error: 0.6245 - rmse: 0.6484 -
mean_absolute_percentage_error: 220.9594

Epoch 31/50
10/10 [=====] - 0s 3ms/step - loss: 0.6329 -
mean_absolute_error: 0.2854 - mean_squared_error: 0.6220 - rmse: 0.6753 -
mean_absolute_percentage_error: 216.3397

Epoch 32/50
10/10 [=====] - 0s 2ms/step - loss: 0.6317 -
mean_absolute_error: 0.2837 - mean_squared_error: 0.6208 - rmse: 0.5743 -
mean_absolute_percentage_error: 214.4157

Epoch 33/50
10/10 [=====] - 0s 2ms/step - loss: 0.6301 -
mean_absolute_error: 0.2831 - mean_squared_error: 0.6192 - rmse: 0.5986 -
mean_absolute_percentage_error: 214.1539

Epoch 34/50
10/10 [=====] - 0s 2ms/step - loss: 0.6287 -
mean_absolute_error: 0.2826 - mean_squared_error: 0.6177 - rmse: 0.5954 -
mean_absolute_percentage_error: 213.7033

Epoch 35/50
10/10 [=====] - 0s 2ms/step - loss: 0.6270 -
mean_absolute_error: 0.2815 - mean_squared_error: 0.6161 - rmse: 0.6142 -
mean_absolute_percentage_error: 211.8273

Epoch 36/50
10/10 [=====] - 0s 2ms/step - loss: 0.6261 -
mean_absolute_error: 0.2795 - mean_squared_error: 0.6153 - rmse: 0.6515 -
mean_absolute_percentage_error: 208.3202

Epoch 37/50
10/10 [=====] - 0s 2ms/step - loss: 0.6255 -
mean_absolute_error: 0.2788 - mean_squared_error: 0.6147 - rmse: 0.6342 -
mean_absolute_percentage_error: 205.7065

Epoch 38/50
10/10 [=====] - 0s 2ms/step - loss: 0.6236 -
mean_absolute_error: 0.2768 - mean_squared_error: 0.6128 - rmse: 0.6476 -
mean_absolute_percentage_error: 202.9416

Epoch 39/50
10/10 [=====] - 0s 2ms/step - loss: 0.6226 -
mean_absolute_error: 0.2781 - mean_squared_error: 0.6118 - rmse: 0.6572 -
mean_absolute_percentage_error: 204.2954

Epoch 40/50
10/10 [=====] - 0s 2ms/step - loss: 0.6213 -
mean_absolute_error: 0.2792 - mean_squared_error: 0.6105 - rmse: 0.6624 -
mean_absolute_percentage_error: 204.1603

Epoch 41/50
10/10 [=====] - 0s 2ms/step - loss: 0.6210 -
mean_absolute_error: 0.2802 - mean_squared_error: 0.6102 - rmse: 0.6102 -
mean_absolute_percentage_error: 204.0477

Epoch 42/50
10/10 [=====] - 0s 3ms/step - loss: 0.6202 -
mean_absolute_error: 0.2809 - mean_squared_error: 0.6094 - rmse: 0.6371 -
mean_absolute_percentage_error: 205.1306

Epoch 43/50
10/10 [=====] - 0s 3ms/step - loss: 0.6189 -
mean_absolute_error: 0.2791 - mean_squared_error: 0.6082 - rmse: 0.6194 -
mean_absolute_percentage_error: 201.7620

Epoch 44/50
10/10 [=====] - 0s 3ms/step - loss: 0.6168 -
mean_absolute_error: 0.2777 - mean_squared_error: 0.6061 - rmse: 0.6460 -
mean_absolute_percentage_error: 198.0050

Epoch 45/50
10/10 [=====] - 0s 2ms/step - loss: 0.6158 -
mean_absolute_error: 0.2778 - mean_squared_error: 0.6052 - rmse: 0.6469 -
mean_absolute_percentage_error: 198.1667

Epoch 46/50
10/10 [=====] - 0s 4ms/step - loss: 0.6153 -
mean_absolute_error: 0.2787 - mean_squared_error: 0.6047 - rmse: 0.6403 -
mean_absolute_percentage_error: 199.1406

Epoch 47/50
10/10 [=====] - 0s 3ms/step - loss: 0.6150 -
mean_absolute_error: 0.2792 - mean_squared_error: 0.6043 - rmse: 0.6379 -
mean_absolute_percentage_error: 198.3858

Epoch 48/50
10/10 [=====] - 0s 3ms/step - loss: 0.6155 -
mean_absolute_error: 0.2774 - mean_squared_error: 0.6049 - rmse: 0.6291 -
mean_absolute_percentage_error: 195.1562

Epoch 49/50
10/10 [=====] - 0s 3ms/step - loss: 0.6130 -
mean_absolute_error: 0.2767 - mean_squared_error: 0.6024 - rmse: 0.6403 -
mean_absolute_percentage_error: 193.1469

Epoch 50/50
10/10 [=====] - 0s 2ms/step - loss: 0.6120 -
mean_absolute_error: 0.2774 - mean_squared_error: 0.6014 - rmse: 0.6380 -
mean_absolute_percentage_error: 194.8504

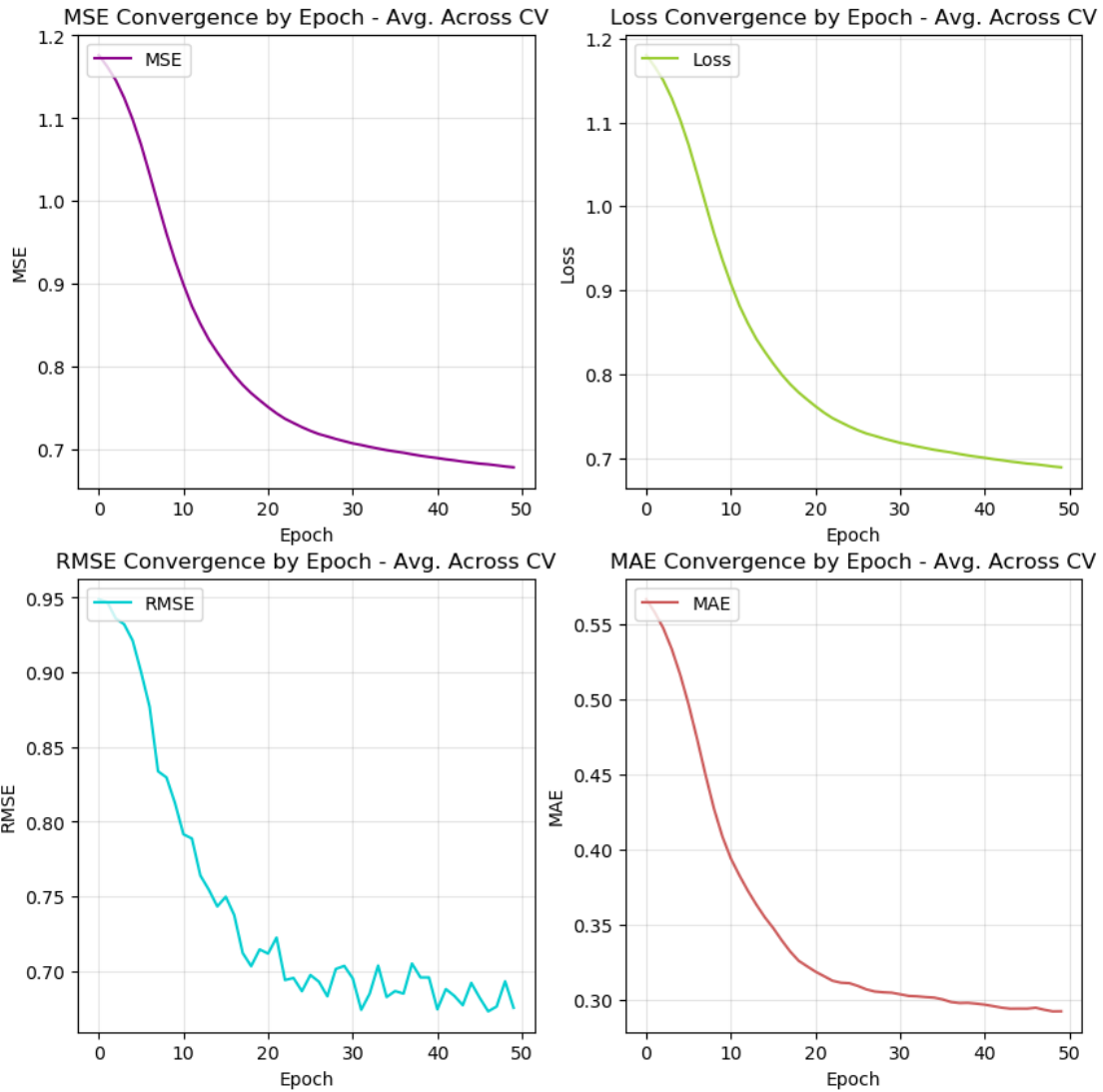
5/5 [=====] - 0s 2ms/step - loss: 0.2318 -
mean_absolute_error: 0.2681 - mean_squared_error: 0.2212 - rmse: 0.4570 -
mean_absolute_percentage_error: 196.3778

5/5 [=====] - 0s 2ms/step

```
[25]: #Graph for Measures
figure_mixed = graph_metric_by_fold(compendium_mixed)
plt.show()
```



```
[26]: #Graph for Convergence
figure_mixed = graph_epoch_convergence(compendium_mixed)
plt.show()
```



8 Comparison

```
[28]: #All metrics
      #Vanilla
      v_nn_mse = give_me_avg(compendium_v, 'MSE')
      v_nn_mae = give_me_avg(compendium_v, 'MAE')
      v_nn_rmse = give_me_avg(compendium_v, 'RMSE')
      v_nn_r2 = give_me_avg(compendium_v, 'R2')
      v_nn_maw = give_me_avg(compendium_v, 'MAW')
      v_nn_msw = give_me_avg(compendium_v, 'MSW')

      #L1
```

```

l1_nn_mse = give_me_avg(compendium_l1, 'MSE')
l1_nn_mae = give_me_avg(compendium_l1, 'MAE')
l1_nn_rmse = give_me_avg(compendium_l1, 'RMSE')
l1_nn_r2 = give_me_avg(compendium_l1, 'R2')
l1_nn_maw = give_me_avg(compendium_l1, 'MAW')
l1_nn_msw = give_me_avg(compendium_l1, 'MSW')

#L2
l2_nn_mse = give_me_avg(compendium_l2, 'MSE')
l2_nn_mae = give_me_avg(compendium_l2, 'MAE')
l2_nn_rmse = give_me_avg(compendium_l2, 'RMSE')
l2_nn_r2 = give_me_avg(compendium_l2, 'R2')
l2_nn_maw = give_me_avg(compendium_l2, 'MAW')
l2_nn_msw = give_me_avg(compendium_l2, 'MSW')

#Mixed
m_nn_mse = give_me_avg(compendium_mixed, 'MSE')
m_nn_mae = give_me_avg(compendium_mixed, 'MAE')
m_nn_rmse = give_me_avg(compendium_mixed, 'RMSE')
m_nn_r2 = give_me_avg(compendium_mixed, 'R2')
m_nn_maw = give_me_avg(compendium_mixed, 'MAW')
m_nn_msw = give_me_avg(compendium_mixed, 'MSW')

```

```

[29]: #Making the table

# create comparison table
comparison = pd.DataFrame()

# add components
comparison['Regularisation'] = ['Vanilla', 'L1 (Lasso)', 'L2 (Ridge)', 'Elastic_
↳Net']

comparison['MAE'] = [v_nn_mae, l1_nn_mae, l2_nn_mae, m_nn_mae]
comparison['MSE'] = [v_nn_mse, l1_nn_mse, l2_nn_mse, m_nn_mse]
comparison['RMSE'] = [v_nn_rmse, l1_nn_rmse, l2_nn_rmse, m_nn_rmse]
comparison['R2'] = [v_nn_r2, l1_nn_r2, l2_nn_r2, m_nn_r2]
comparison['MAW'] = [v_nn_maw, l1_nn_maw, l2_nn_maw, m_nn_maw]
comparison['MSW'] = [v_nn_msw, l1_nn_msw, l2_nn_msw, m_nn_msw]

# set index
comparison.set_index("Regularisation")

```

```

[29]:

```

	MAE	MSE	RMSE	R2	MAW	MSW
Regularisation						
Vanilla	0.282999	0.233678	0.468489	0.590188	0.128369	0.024871

L1 (Lasso)	0.282686	0.231346	0.465691	0.594274	0.114683	0.022013
L2 (Ridge)	0.285497	0.233378	0.467875	0.590714	0.127678	0.024786
Elastic Net	0.276500	0.240744	0.475084	0.577799	0.108610	0.020324

[]: