

Parameter Configuration.

```
epochs=5
batch_size=32
SEED = 42
Dropout(0.2)
optimizer='adam'
loss='mse'
patience=3
RMSE (Root Mean Squared Error)
MAE (Mean Absolute Error)
```

Model: "sequential_3"

Layer (type)	Output Shape	Param #
lstm_6 (LSTM)	(None, 150, 50)	10,400
dropout_6 (Dropout)	(None, 150, 50)	0
lstm_7 (LSTM)	(None, 50)	20,200
dropout_7 (Dropout)	(None, 50)	0
dense_3 (Dense)	(None, 1)	51

Total params: 30,651 (119.73 KB)
Trainable params: 30,651 (119.73 KB)
Non-trainable params: 0 (0.00 B)

WINDOW = 30

Epoch 1/5

1399/1399  **50s** 36ms/step - loss:

8.3557e-04 - val_loss: 1.6480e-04

Epoch 2/5

1399/1399  **77s** 32ms/step - loss:

5.0248e-04 - val_loss: 2.2648e-04

Epoch 3/5

1399/1399  **83s** 33ms/step - loss:

4.0810e-04 - val_loss: 1.6148e-04

Epoch 4/5

1399/1399  **46s** 33ms/step - loss:

3.9029e-04 - val_loss: 1.6529e-04

Epoch 5/5

1399/1399  **82s** 33ms/step - loss:

3.8635e-04 - val_loss: 1.4781e-04

1399/1399  **13s** 9ms/step - loss:

4.8089e-05

MSE Train: 7.848375389585271e-05

466/466  **5s** 11ms/step - loss:

1.5174e-04

MSE Test: 0.00014781307254452258

466/466  **4s** 9ms/step - loss:

1.0363e-04

MSE Val: 0.0001119143926189281

Test Set RMSE (Original Scale): 0.001015 EURUSD

Test Set MAE (Original Scale): 0.000804 EURUSD

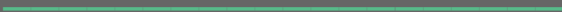
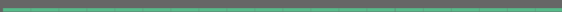
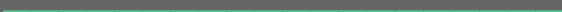


Validation Set RMSE (Original Scale): 0.000883 EURUSD


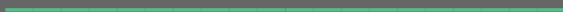
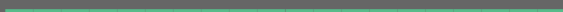
Validation Set MAE (Original Scale): 0.000612 EURUSD

Training Set RMSE (Original Scale): 0.000739 EURUSD

Training Set MAE (Original Scale): 0.000557 EURUSD

WINDOW = 50

Epoch 1/5
1398/1398  80s 54ms/step - loss:
0.0107 - val_loss: 3.7102e-04
Epoch 2/5
1398/1398  76s 49ms/step - loss:
0.0015 - val_loss: 3.9189e-04
Epoch 3/5
1398/1398  81s 49ms/step - loss:
8.2824e-04 - val_loss: 2.0134e-04
Epoch 4/5
1398/1398  82s 49ms/step - loss:
5.1184e-04 - val_loss: 2.3819e-04
Epoch 5/5
1398/1398  72s 52ms/step - loss:
4.2136e-04 - val_loss: 1.9940e-04

1398/1398  **19s** 13ms/step - loss:
7.9883e-05
MSE Train: 9.779164975043386e-05
465/465  **7s** 15ms/step - loss:
2.2376e-04
MSE Test: 0.00019940166384913027
465/465  **6s** 13ms/step - loss:
2.1870e-04
MSE Val: 0.00022543544764630497

Test Set RMSE (Original Scale): 0.001179 EURUSD
Test Set MAE (Original Scale): 0.000949 EURUSD
Validation Set RMSE (Original Scale): 0.001253 EURUSD
Validation Set MAE (Original Scale): 0.001041 EURUSD
Training Set RMSE (Original Scale): 0.000825 EURUSD
Training Set MAE (Original Scale): 0.000695 EURUSD

WINDOW = 150

```
Epoch 1/5
1395/1395 ————— 194s 136ms/step - loss:
0.0086 - val_loss: 2.3285e-04
Epoch 2/5
1395/1395 ————— 202s 137ms/step - loss:
0.0014 - val_loss: 1.6846e-04
Epoch 3/5
1395/1395 ————— 204s 138ms/step - loss:
7.6224e-04 - val_loss: 1.5697e-04
Epoch 4/5
1395/1395 ————— 199s 136ms/step - loss:
4.6976e-04 - val_loss: 5.0176e-04
Epoch 5/5
1395/1395 ————— 202s 136ms/step - loss:
4.0432e-04 - val_loss: 2.6088e-04

1395/1395 ————— 51s 37ms/step - loss:
5.9647e-05
MSE Train: 0.00010474619193701074
462/462 ————— 17s 36ms/step - loss:
3.6146e-04
MSE Test: 0.00026087884907610714
462/462 ————— 17s 36ms/step - loss:
2.7206e-04
MSE Val: 0.00025692323106341064
```

```
Test Set RMSE (Original Scale): 0.001348 EURUSD
Test Set MAE (Original Scale): 0.001081 EURUSD
Validation Set RMSE (Original Scale): 0.001338 EURUSD
Validation Set MAE (Original Scale): 0.001111 EURUSD
Training Set RMSE (Original Scale): 0.000854 EURUSD
Training Set MAE (Original Scale): 0.000657 EURUSD
```

WINDOW = 200

```
Epoch 1/5
1394/1394 ————— 278s 197ms/step - loss:
0.0130 - val_loss: 1.8483e-04
Epoch 2/5
1394/1394 ————— 341s 211ms/step - loss:
0.0016 - val_loss: 2.1002e-04
Epoch 3/5
1394/1394 ————— 314s 205ms/step - loss:
9.1383e-04 - val_loss: 5.4890e-04
Epoch 4/5
1394/1394 ————— 289s 207ms/step - loss:
5.6181e-04 - val_loss: 2.1861e-04

1394/1394 ————— 85s 61ms/step - loss:
1.7760e-04
MSE Train: 0.00017935482901521027
461/461 ————— 26s 57ms/step - loss:
1.3781e-04
MSE Test: 0.00021861291315872222
461/461 ————— 26s 57ms/step - loss:
1.3739e-04
MSE Val: 0.00017412041779607534
```

```
Test Set RMSE (Original Scale): 0.001234 EURUSD
Test Set MAE (Original Scale): 0.000947 EURUSD
Validation Set RMSE (Original Scale): 0.001101 EURUSD
Validation Set MAE (Original Scale): 0.000811 EURUSD
Training Set RMSE (Original Scale): 0.001118 EURUSD
Training Set MAE (Original Scale): 0.000997 EURUSD
```

WINDOW = 288

```
Epoch 1/5
1391/1391 ————— 400s 285ms/step - loss:
0.0089 - val_loss: 1.6362e-04
Epoch 2/5
1391/1391 ————— 444s 286ms/step - loss:
0.0015 - val_loss: 2.7204e-04
Epoch 3/5
1391/1391 ————— 446s 289ms/step - loss:
7.7804e-04 - val_loss: 1.9675e-04
Epoch 4/5
1391/1391 ————— 434s 283ms/step - loss:
4.7243e-04 - val_loss: 1.2856e-04
Epoch 5/5
1391/1391 ————— 446s 286ms/step - loss:
4.0558e-04 - val_loss: 1.2230e-04

1391/1391 ————— 103s 74ms/step - loss:
4.9722e-05
MSE Train: 5.975351086817682e-05
458/458 ————— 33s 72ms/step - loss:
9.3588e-05
MSE Test: 0.00012230478751007468
458/458 ————— 35s 76ms/step - loss:
9.1150e-05
MSE Val: 0.00010743486200226471
```

```
Test Set RMSE (Original Scale): 0.000923 EURUSD
Test Set MAE (Original Scale): 0.000656 EURUSD
Validation Set RMSE (Original Scale): 0.000865 EURUSD
Validation Set MAE (Original Scale): 0.000561 EURUSD
Training Set RMSE (Original Scale): 0.000645 EURUSD
Training Set MAE (Original Scale): 0.000513 EURUSD
```