

TRXvsTHETER

August 13, 2025

TRON_Forecast: Advanced Cryptocurrency Price Prediction (VIZ & Results)

```
[22]: # REQUIREMENTS
pip install requests pandas numpy scikit-learn pmdarima tensorflow
```

1 Get current date and time

```
[12]: from datetime import datetime
now = datetime.now()

print("Today is:", now.strftime("%A, %d %B %Y"))
print("Current time:", now.strftime("%H:%M:%S"))
```

Today is: Wednesday, 13 August 2025
Current time: 09:33:40

1.1 Today is: Wednesday, 13 August 2025

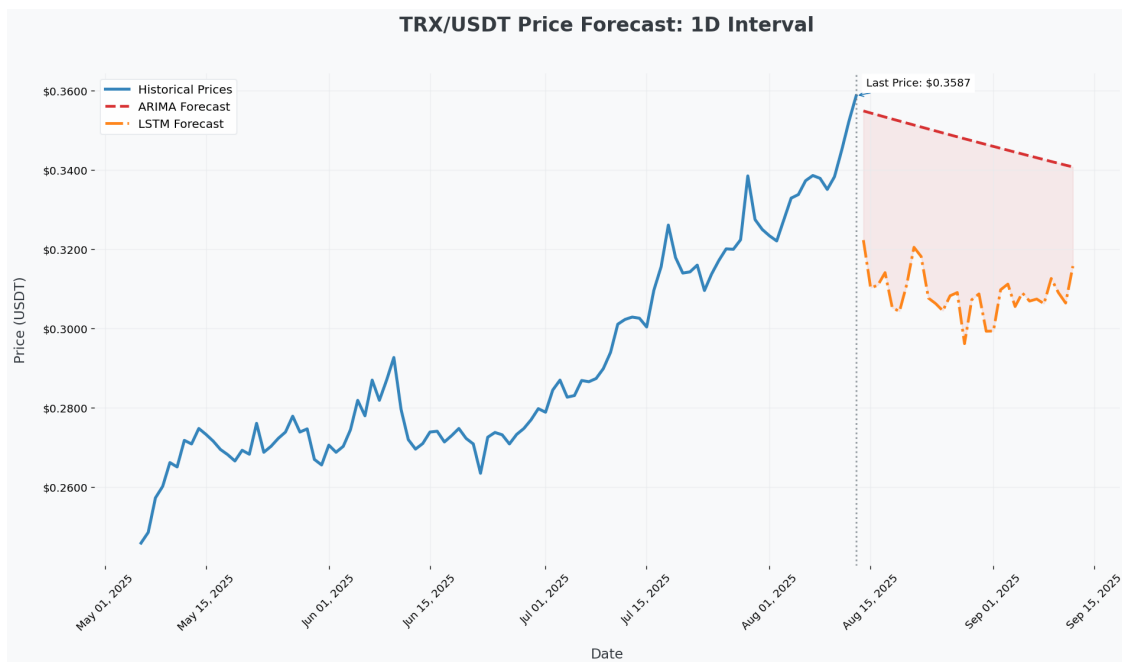
```
[20]:
```

```
=====
TRX/USDT FORECASTING SYSTEM
=====

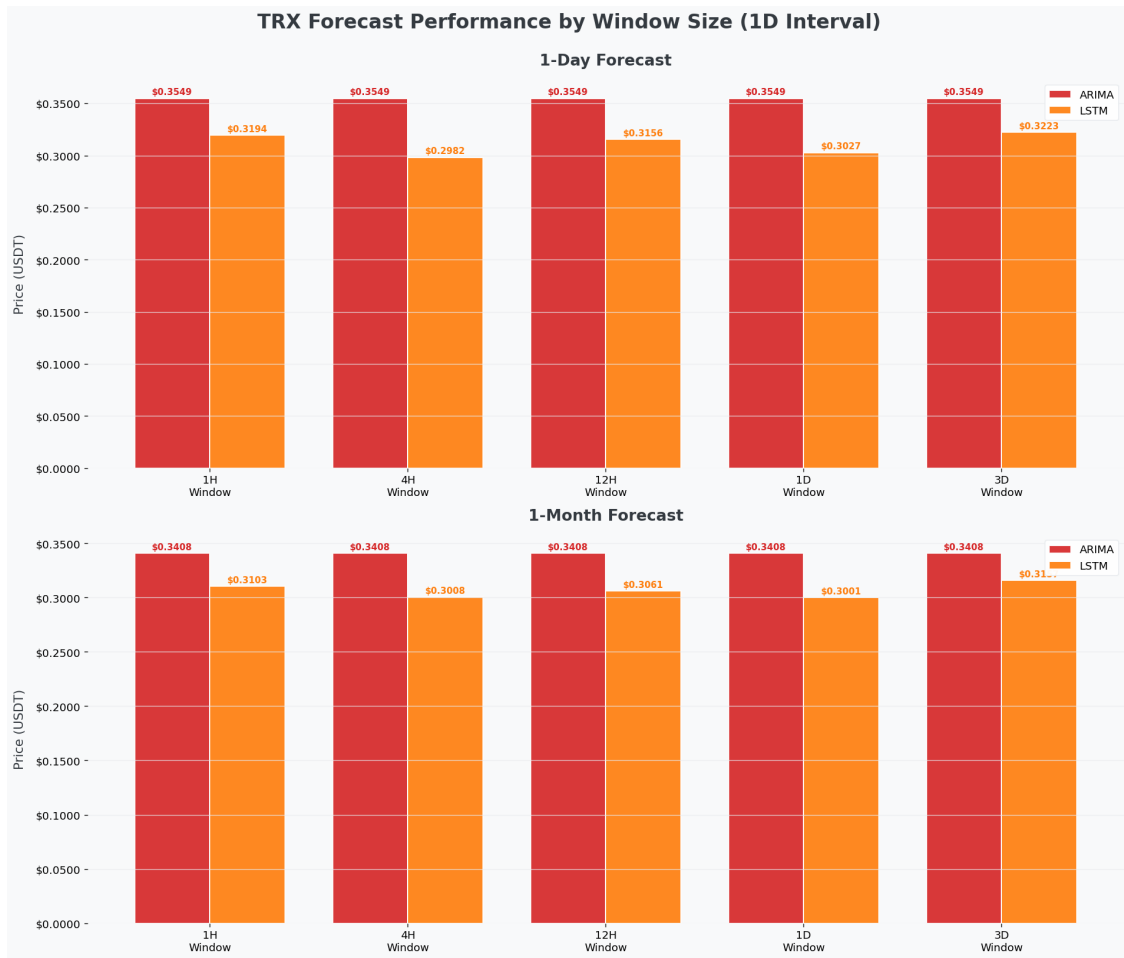
Fetching TRX/USDT historical data...
Error from binance: binance GET https://api.binance.com/api/v3/exchangeInfo
451 {
  "code": 0,
  "msg": "Service unavai... trying next
  Fetched TRX/USDT data from kucoin
```

```
=====
Processing 1D interval
=====
```

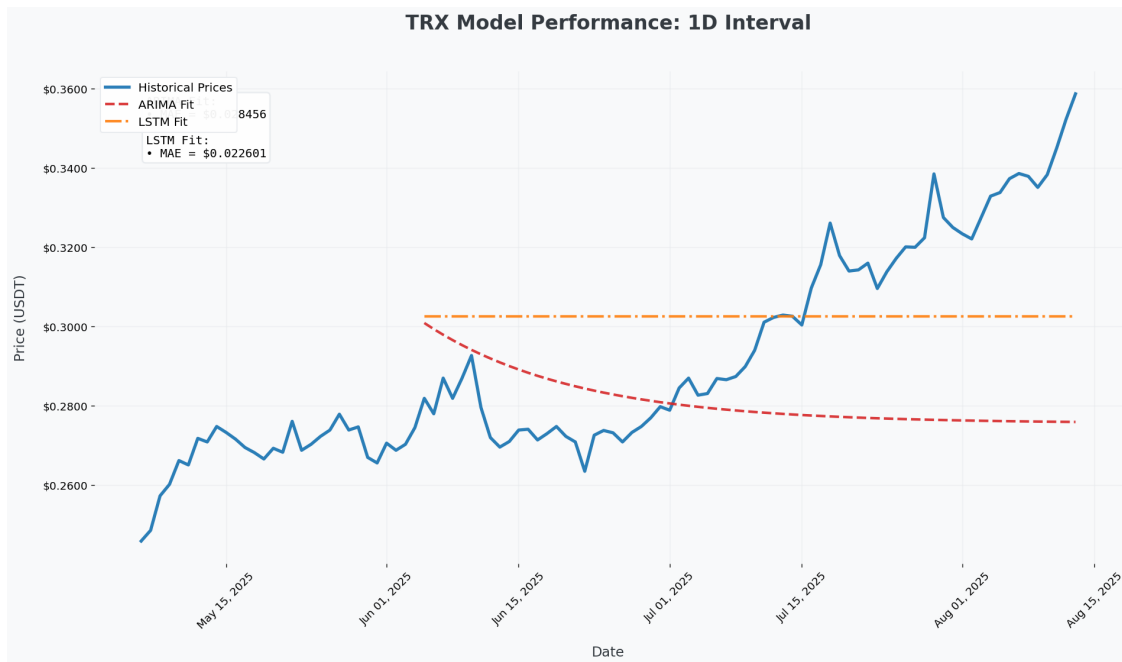
```
• Calculating 1H window...
1/1      0s 265ms/step
• Calculating 4H window...
1/1      0s 186ms/step
• Calculating 12H window...
1/1      0s 173ms/step
• Calculating 1D window...
1/1      0s 171ms/step
• Calculating 3D window...
1/1      0s 169ms/step
Creating forecast comparison visualization...
```



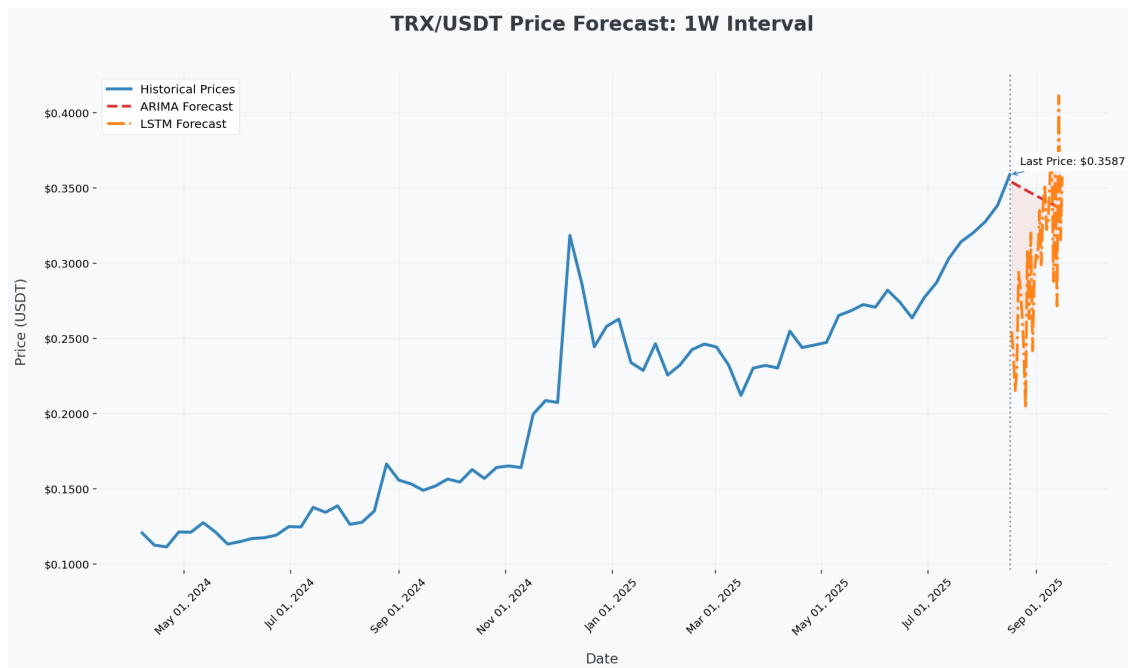
Creating window comparison visualization...



Creating model performance visualization (1H window)...



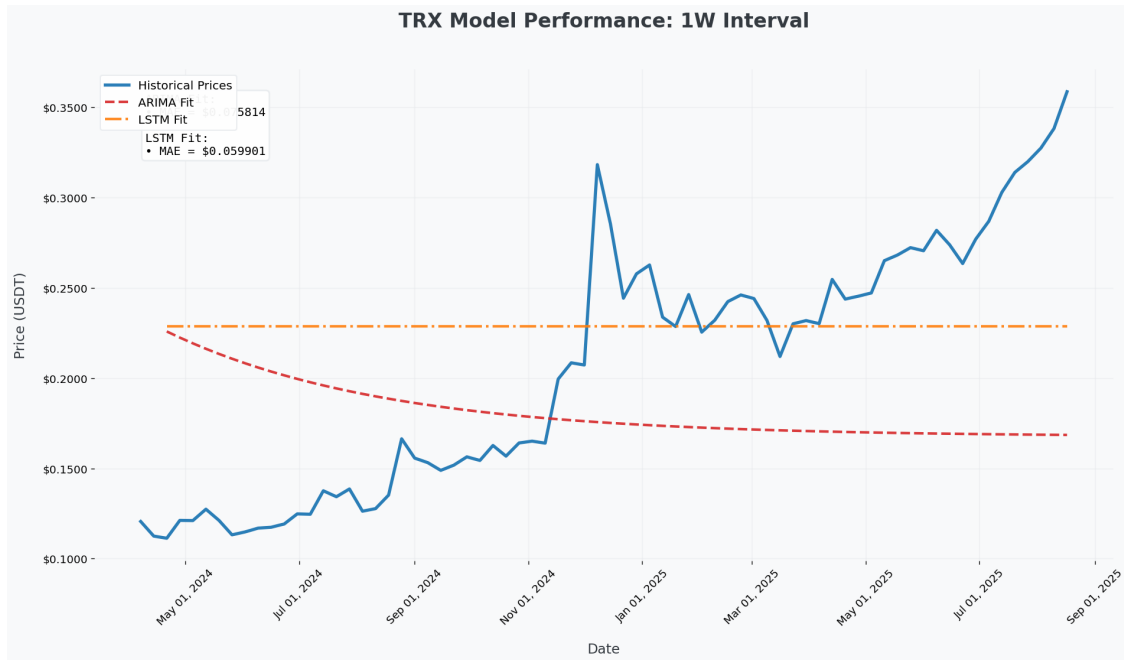
```
=====
Processing 1W interval
=====
• Calculating 1H window...
1/1      0s 300ms/step
• Calculating 4H window...
1/1      0s 181ms/step
• Calculating 12H window...
1/1      0s 175ms/step
• Calculating 1D window...
1/1      0s 285ms/step
• Calculating 3D window...
1/1      0s 176ms/step
Creating forecast comparison visualization...
```



Creating window comparison visualization...



Creating model performance visualization (1H window)...



=====
 Processing 1M interval
 =====

Insufficient data (17 points). Skipping.

=====
 FORECAST RESULTS
 =====

1D Interval

1H Window:

ARIMA 1D: \$0.354889

LSTM 1D: \$0.319411

ARIMA 1M: \$0.340756

LSTM 1M: \$0.310317

4H Window:

ARIMA 1D: \$0.354889

LSTM 1D: \$0.298199

ARIMA 1M: \$0.340756

LSTM 1M: \$0.300773

12H Window:

ARIMA 1D: \$0.354889
LSTM 1D: \$0.315553
ARIMA 1M: \$0.340756
LSTM 1M: \$0.306094

1D Window:

ARIMA 1D: \$0.354889
LSTM 1D: \$0.302733
ARIMA 1M: \$0.340756
LSTM 1M: \$0.300147

3D Window:

ARIMA 1D: \$0.354889
LSTM 1D: \$0.322311
ARIMA 1M: \$0.340756
LSTM 1M: \$0.315746

1W Interval

1H Window:

ARIMA 1D: \$0.353786
LSTM 1D: \$0.252147
ARIMA 1M: \$0.335764
LSTM 1M: \$0.336100

4H Window:

ARIMA 1D: \$0.353786
LSTM 1D: \$0.258260
ARIMA 1M: \$0.335764
LSTM 1M: \$0.396813

12H Window:

ARIMA 1D: \$0.353786
LSTM 1D: \$0.218377
ARIMA 1M: \$0.335764
LSTM 1M: \$0.368477

1D Window:

ARIMA 1D: \$0.353786
LSTM 1D: \$0.254474
ARIMA 1M: \$0.335764
LSTM 1M: \$0.357300

3D Window:

ARIMA 1D: \$0.353786
LSTM 1D: \$0.312474
ARIMA 1M: \$0.335764
LSTM 1M: \$0.323324


```
=====
VISUALIZATIONS SAVED TO CURRENT DIRECTORY
=====
```

Forecasting complete! Professional charts saved as PNG files.

[11]:

```
Starting TRX/USDT forecasting and visualization...
```

```
Error from binance: binance GET https://api.binance.com/api/v3/exchangeInfo 451
```

```
{
```

```
  "code": 0,
```

```
  "msg": "Service unavai... trying next exchange
```

```
Successfully fetched TRX/USDT data from kucoin
```

```
Processing 1D interval for TRX...
```

```
  Calculating 1h windows...
```

```
1/1          0s 177ms/step
```

```
  Calculating 3h windows...
```

```
1/1          0s 172ms/step
```

```
  Calculating 6h windows...
```

```
1/1          0s 174ms/step
```

```
  Calculating 12h windows...
```

```
1/1          0s 291ms/step
```

```
  Calculating 1d windows...
```

```
WARNING:tensorflow:5 out of the last 5 calls to <function
```

```
TensorFlowTrainer.make_predict_function.<locals>.one_step_on_data_distributed at
0x7b381821d120> triggered tf.function retracing. Tracing is expensive and the
excessive number of tracings could be due to (1) creating @tf.function
repeatedly in a loop, (2) passing tensors with different shapes, (3) passing
Python objects instead of tensors. For (1), please define your @tf.function
outside of the loop. For (2), @tf.function has reduce_retracing=True option that
can avoid unnecessary retracing. For (3), please refer to
https://www.tensorflow.org/guide/function#controlling\_retracing and
https://www.tensorflow.org/api\_docs/python/tf/function for more details.
```

```
1/1          0s 193ms/step
```

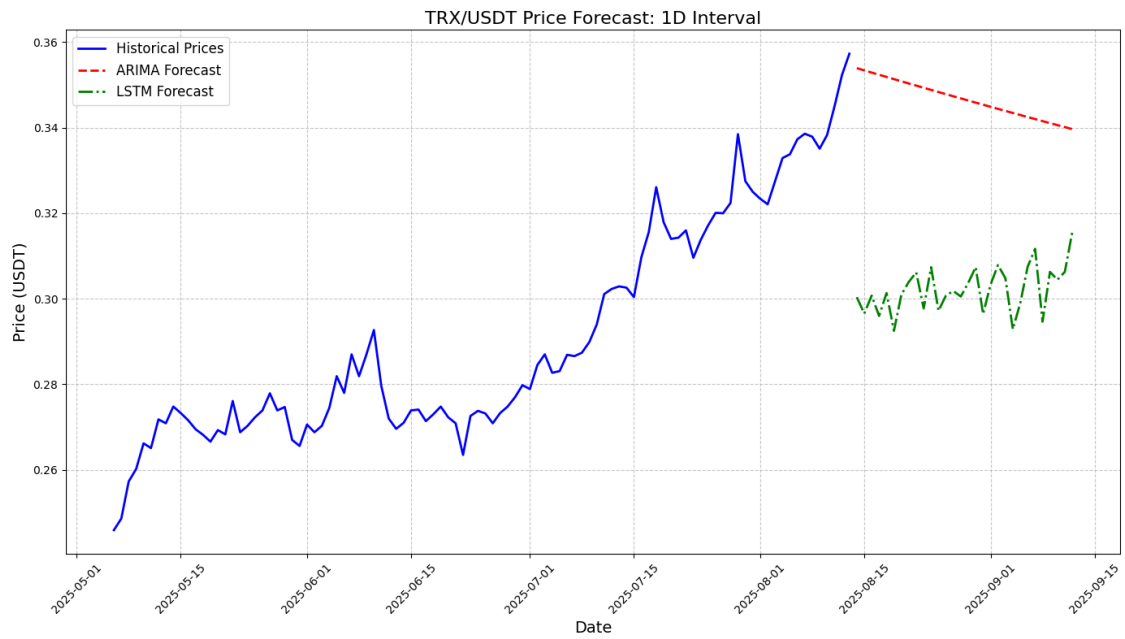
```
  Calculating 3d windows...
```

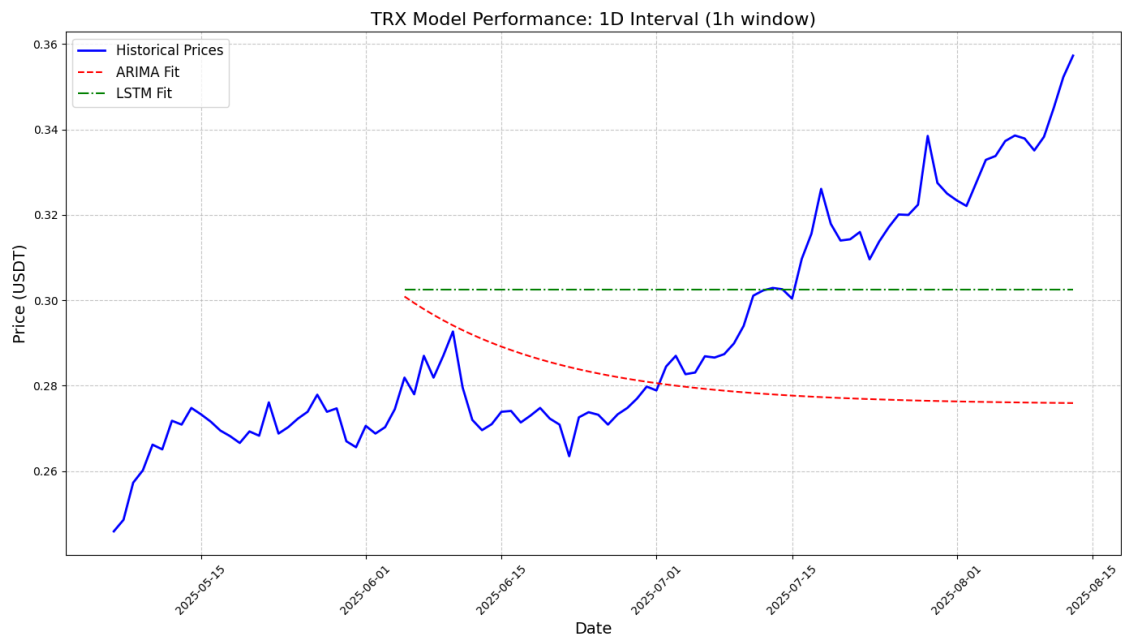
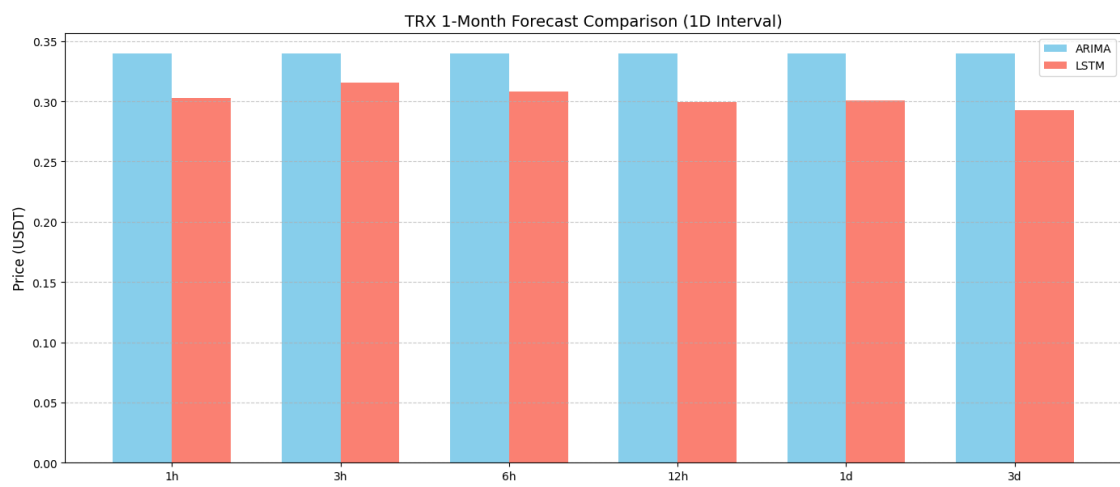
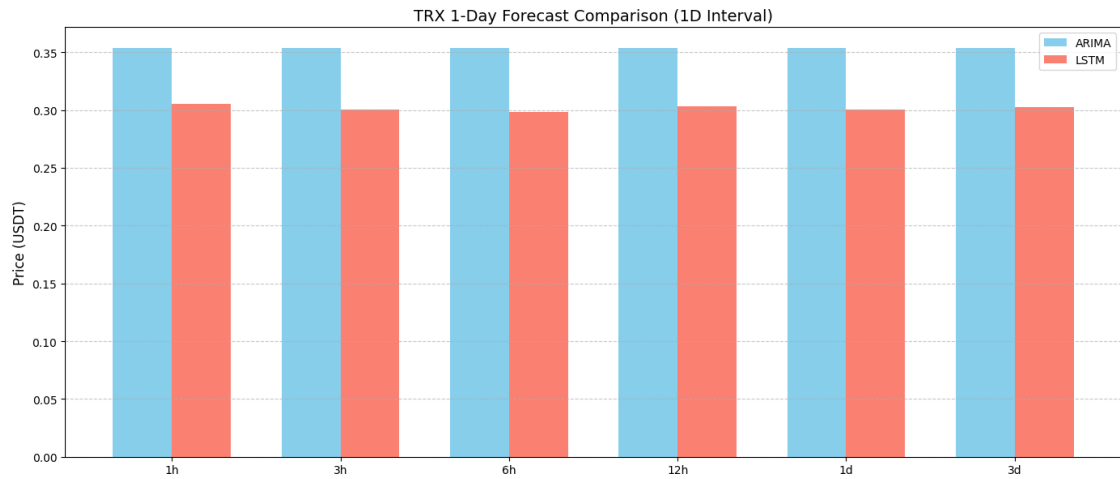
```
WARNING:tensorflow:6 out of the last 6 calls to <function
```

```
TensorFlowTrainer.make_predict_function.<locals>.one_step_on_data_distributed at
0x7b3820058360> triggered tf.function retracing. Tracing is expensive and the
excessive number of tracings could be due to (1) creating @tf.function
repeatedly in a loop, (2) passing tensors with different shapes, (3) passing
Python objects instead of tensors. For (1), please define your @tf.function
outside of the loop. For (2), @tf.function has reduce_retracing=True option that
can avoid unnecessary retracing. For (3), please refer to
```

https://www.tensorflow.org/guide/function#controlling_retracing and
https://www.tensorflow.org/api_docs/python/tf/function for more details.

1/1 0s 181ms/step





Processing 1W interval for TRX...

Calculating 1h windows...

1/1 0s 195ms/step

Calculating 3h windows...

1/1 0s 175ms/step

Calculating 6h windows...

1/1 0s 169ms/step

Calculating 12h windows...

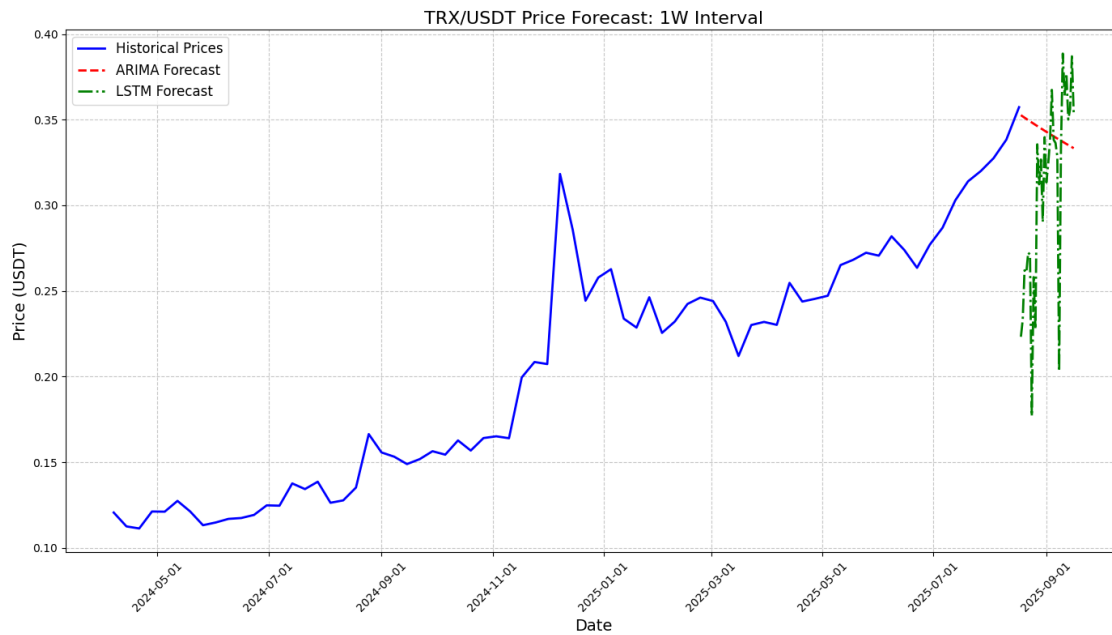
1/1 0s 169ms/step

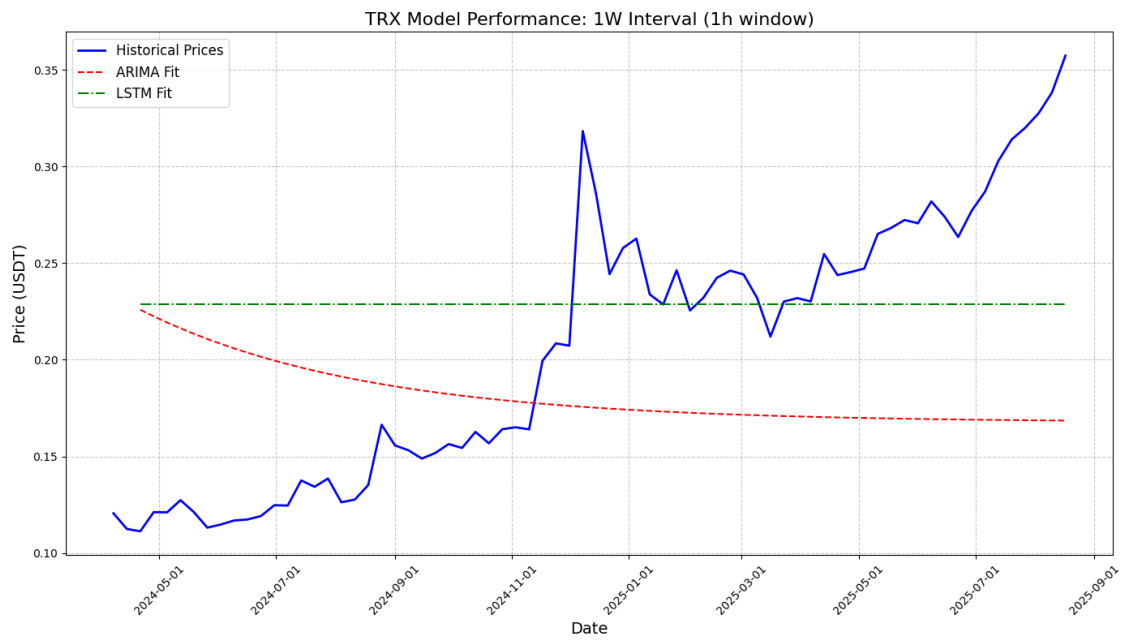
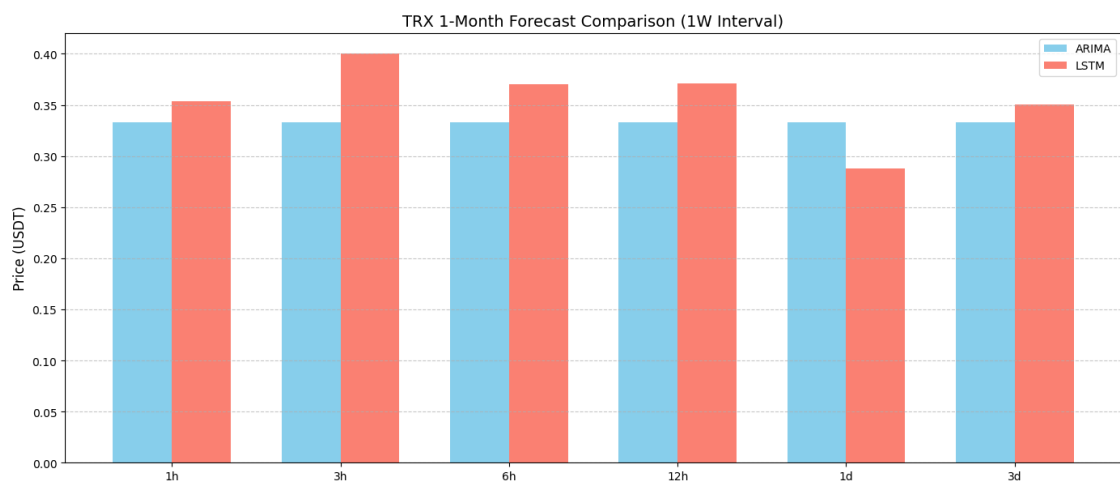
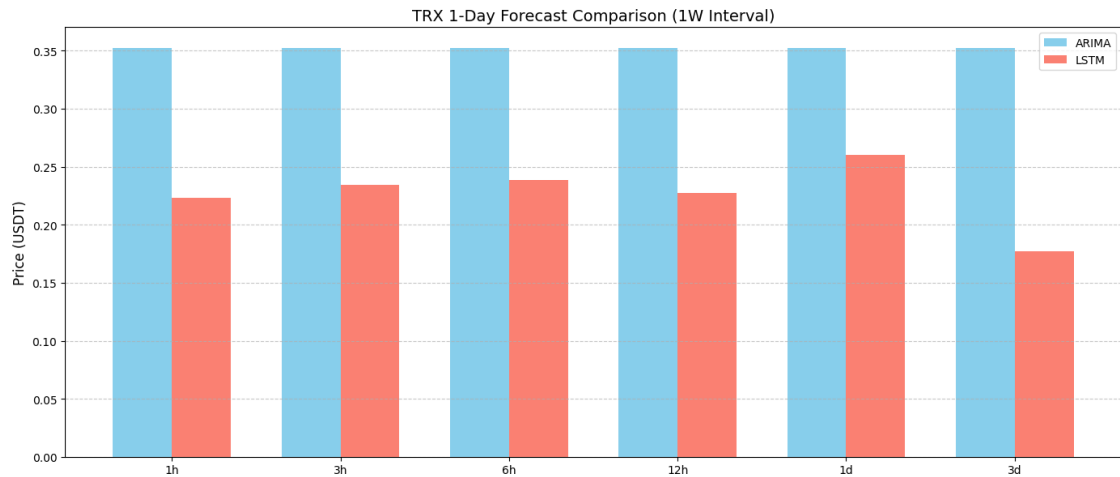
Calculating 1d windows...

1/1 0s 168ms/step

Calculating 3d windows...

1/1 0s 169ms/step





Processing 1M interval for TRX...
Insufficient data (17 points). Skipping.

=== TRX/USDT Forecast Results ===

[1D Interval]

1h window:

ARIMA 1D: 0.353929

LSTM 1D: 0.304990

ARIMA 1M: 0.339669

LSTM 1M: 0.302929

3h window:

ARIMA 1D: 0.353929

LSTM 1D: 0.300383

ARIMA 1M: 0.339669

LSTM 1M: 0.315582

6h window:

ARIMA 1D: 0.353929

LSTM 1D: 0.298249

ARIMA 1M: 0.339669

LSTM 1M: 0.307861

12h window:

ARIMA 1D: 0.353929

LSTM 1D: 0.302986

ARIMA 1M: 0.339669

LSTM 1M: 0.299722

1d window:

ARIMA 1D: 0.353929

LSTM 1D: 0.300622

ARIMA 1M: 0.339669

LSTM 1M: 0.300693

3d window:

ARIMA 1D: 0.353929

LSTM 1D: 0.302258

ARIMA 1M: 0.339669

LSTM 1M: 0.292675

[1W Interval]

1h window:

ARIMA 1D: 0.352612

LSTM 1D: 0.223239

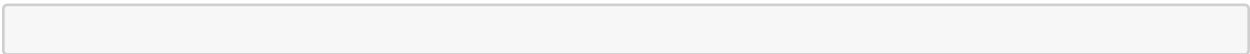
ARIMA 1M: 0.333356

LSTM 1M: 0.353374

```
3h window:
  ARIMA 1D: 0.352612
  LSTM 1D: 0.234057
  ARIMA 1M: 0.333356
  LSTM 1M: 0.400258
6h window:
  ARIMA 1D: 0.352612
  LSTM 1D: 0.238869
  ARIMA 1M: 0.333356
  LSTM 1M: 0.370169
12h window:
  ARIMA 1D: 0.352612
  LSTM 1D: 0.227247
  ARIMA 1M: 0.333356
  LSTM 1M: 0.371152
1d window:
  ARIMA 1D: 0.352612
  LSTM 1D: 0.260096
  ARIMA 1M: 0.333356
  LSTM 1M: 0.287577
3d window:
  ARIMA 1D: 0.352612
  LSTM 1D: 0.176993
  ARIMA 1M: 0.333356
  LSTM 1M: 0.350722
```

TRX forecasting complete! Visualizations saved as PNG files.

[6]:







1.2 —