Thought Process.

My research from Machine Learning Approaches in Stock Price Prediction: A Systematic Review https://iopscience.iop.org/article/10.1088/1742-6596/2161/1/012065/pdf
Reference, page 5. LSTM(Long short term Model) has been described as the best model for Stock price prediction

Advantage
LSTMs are the go-to
Deep Learning algorithms
employed for the task. LSTMs perform
reasonably well as they can
correlate the non-linear time
series data in the delay state. [26]

Disadvantage.
Requires high training time and large memory requirements and this was why I stopped at the second epoch for the LSTM Model.

1. Import required packages: pandas, numpy, matplotlib, tensorflow, time, sklearn.linear_model, and sklearn.metrics.
2. Load the latest training dataset from the URL provided by Numerai, and display the first few rows using head() method.
3. Load the latest tournament dataset from the URL provided by Numerai, and display the first few rows using head() method.
4. Find the feature columns in the training dataset using columns attribute and startswith() method.
5. Select the feature columns from the training dataset using indexing.
6. Create a Sequential model using the Keras API from TensorFlow.
7. Add a LSTM layer to the model with 50 units and return_sequences=True, and add a dropout layer with 0.2 dropout rate.
8. Add another LSTM layer with 100 units and return_sequences=False, and add another dropout layer with 0.2 dropout rate.
9. Add a dense layer with 1 unit and activation function linear.
10. Compile the model with the mean squared error (MSE) loss function and the RMSprop optimizer, and display the compilation time.
11. Fit the model with the training features and target (labels) using a batch size of 128 and 2 epochs.
12. Obtain the MSE score which is 0.0501 in the stock prediction.ipynb file after the second epoch which is higher compared with the Linear regression model of 0.497 Mean squared Error(MSE)

Conclusion:
Linear regression is a better model compared to LSTM based on this dataset and observability.

It is not necessarily true that linear regression will always perform better than LSTM in a stock prediction task. The performance of a model depends on various factors such as the amount and quality of the data, the features used for prediction, and the hyperparameters of the model.

However, in some cases, linear regression may outperform LSTM for stock prediction tasks because:

1. Simplicity: Linear regression is a simple and interpretable model that is easy to implement and understand, whereas LSTM is a complex model that requires more computational resources and expertise to implement.

2. Linearity: Linear regression assumes a linear relationship between the independent variables (features) and the dependent variable (target), which may be appropriate for some stock prediction tasks where the underlying factors affecting the stock price are mostly linearly related.

3. Data availability: In some cases, the amount and quality of data available for training the model may not be sufficient for LSTM to learn the complex temporal patterns in the data. In such cases, a simpler model like linear regression may perform better.

However, if the stock price prediction task involves complex temporal dependencies and non-linear relationships between the features and target, LSTM may be a better choice. It is important to note that the choice of model ultimately depends on the specific task at hand and the nature of the data