

Mohamed IFQIR

Time series forecasting using LSTM

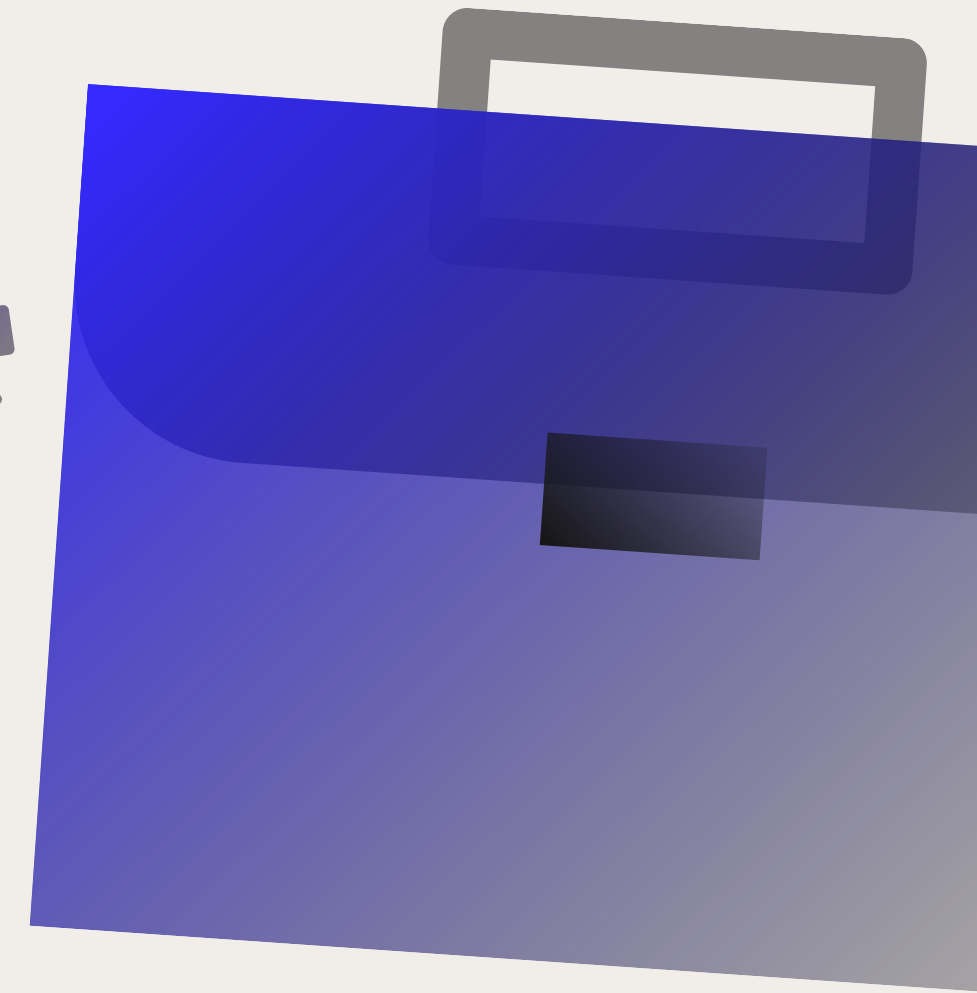
APPL Stock



Under supervision of *Mr TABIA*

APPL Stock trend

The general trend of the APPL stock price across the years



Data preprocessing



APPL Stock Volume



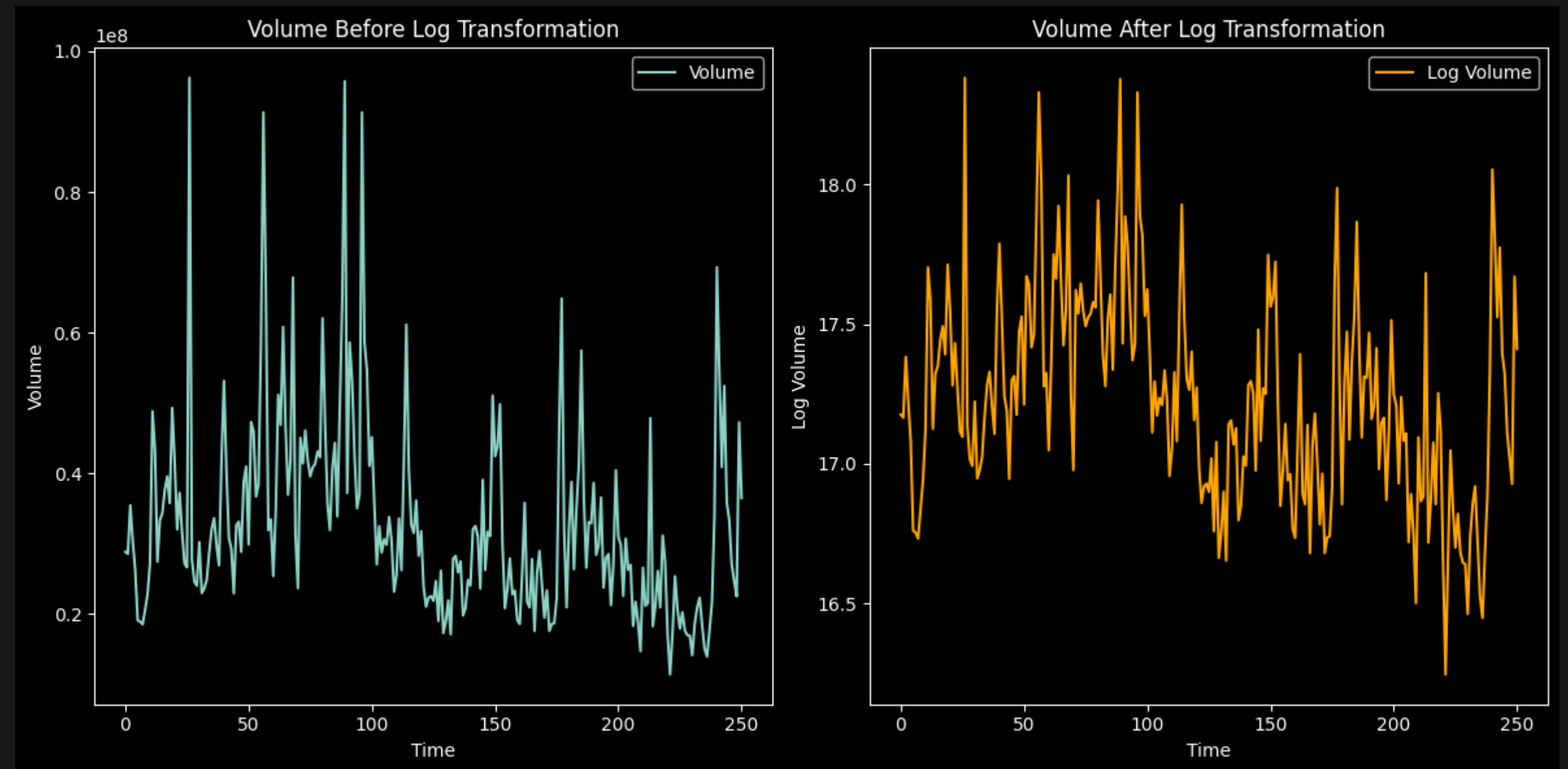
Evolution APPL Market share across the years



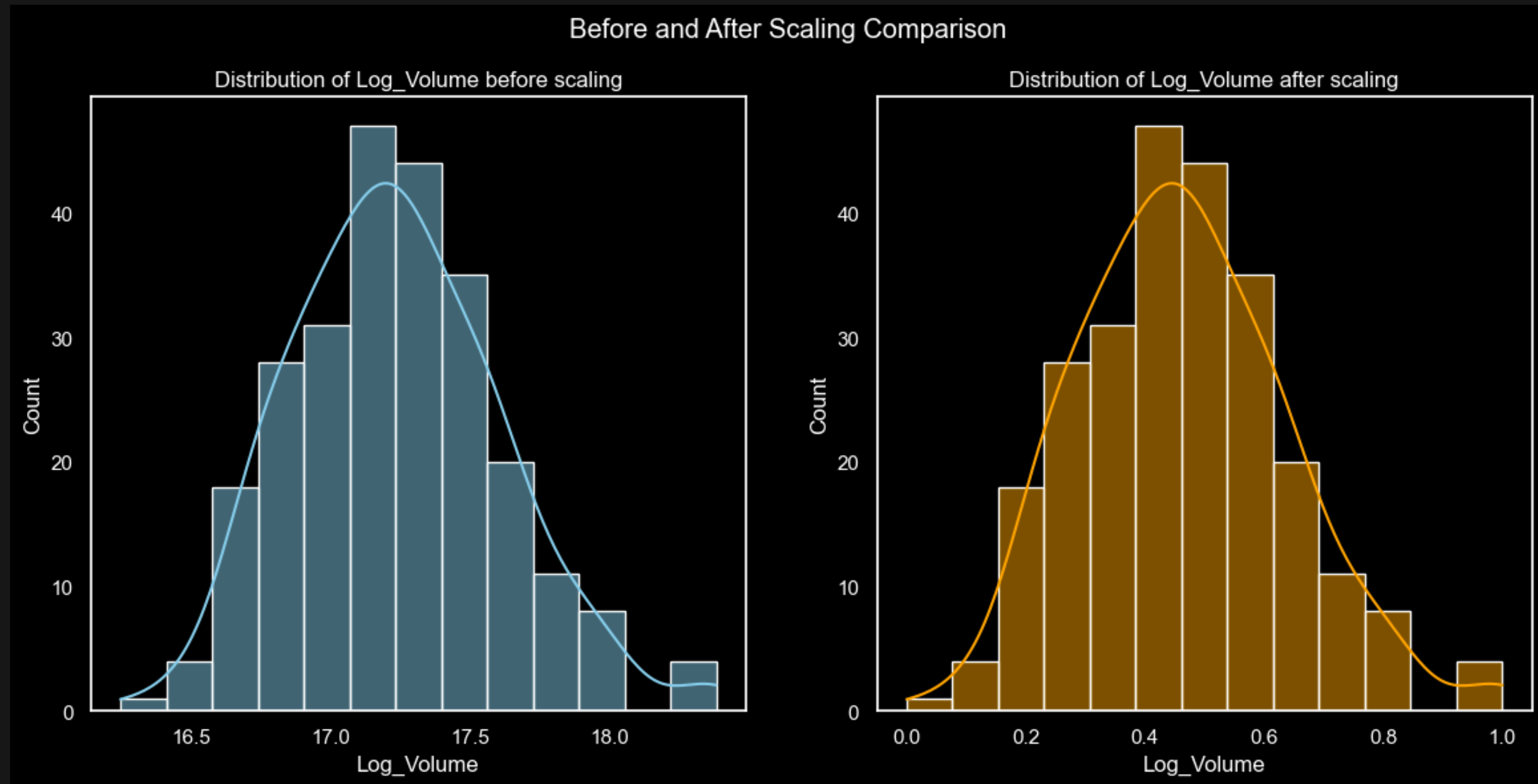
Data preprocessing



Apply Log transformation for the **stock Volume**

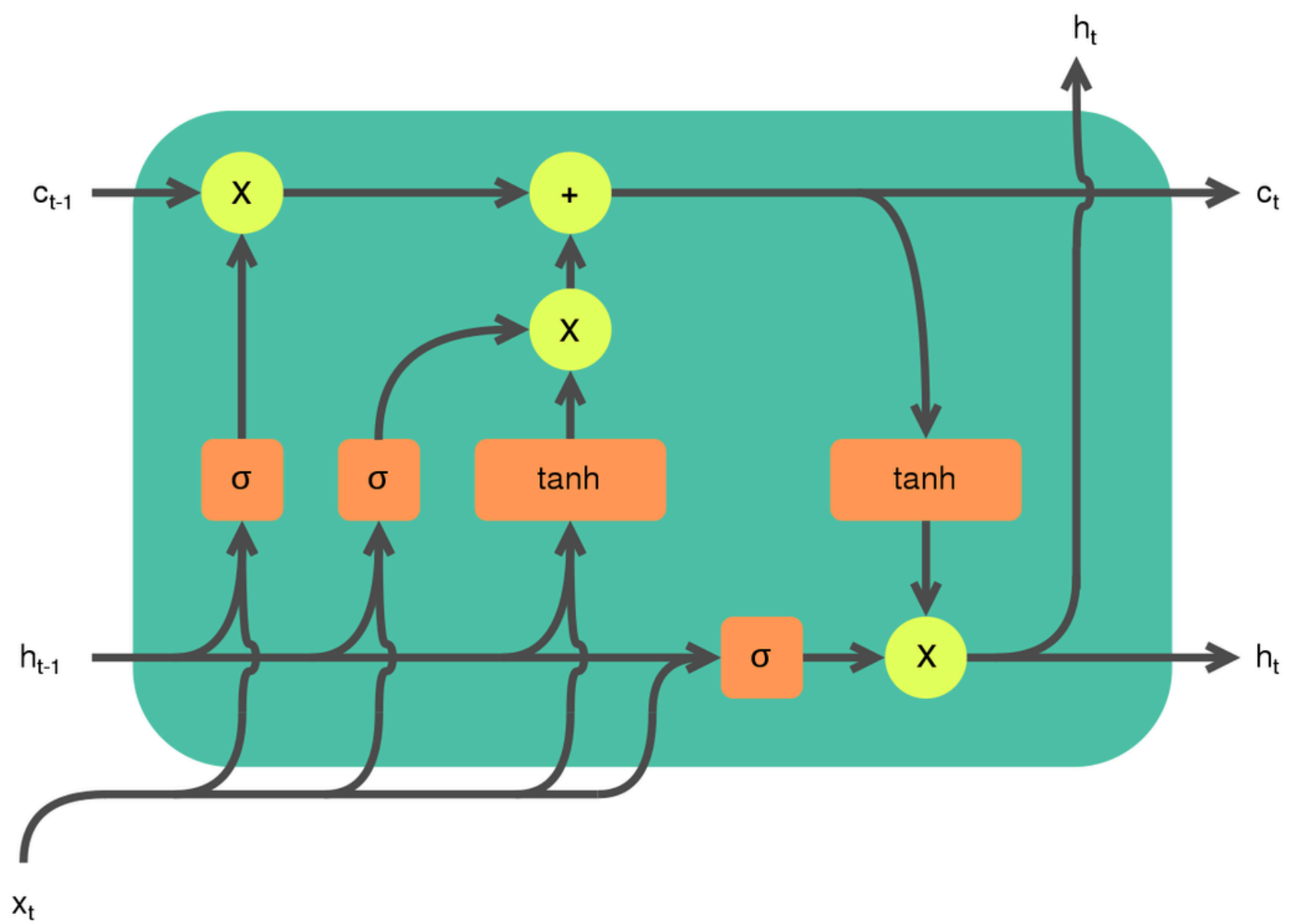


Data preprocessing



MinMax scaler

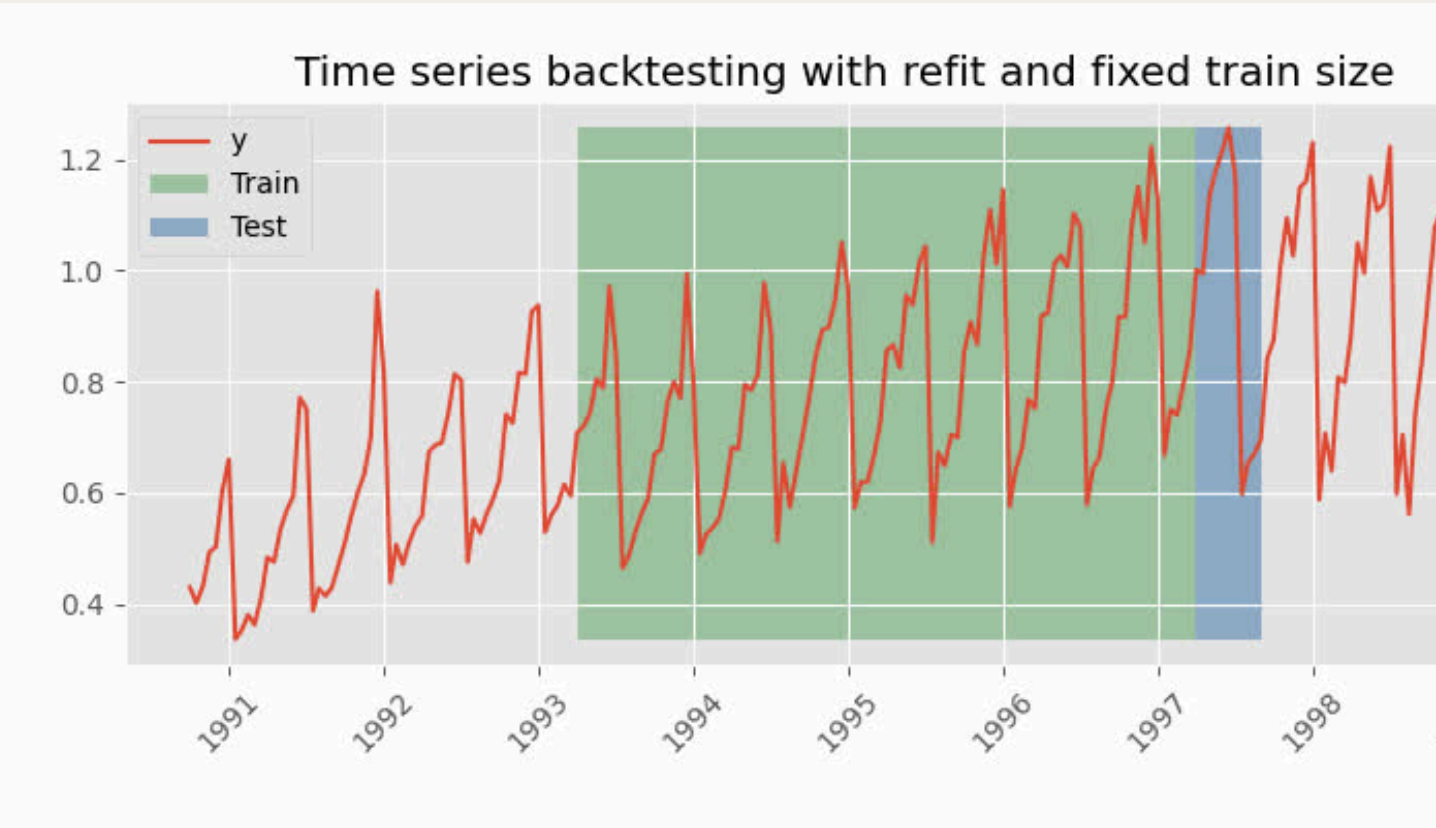
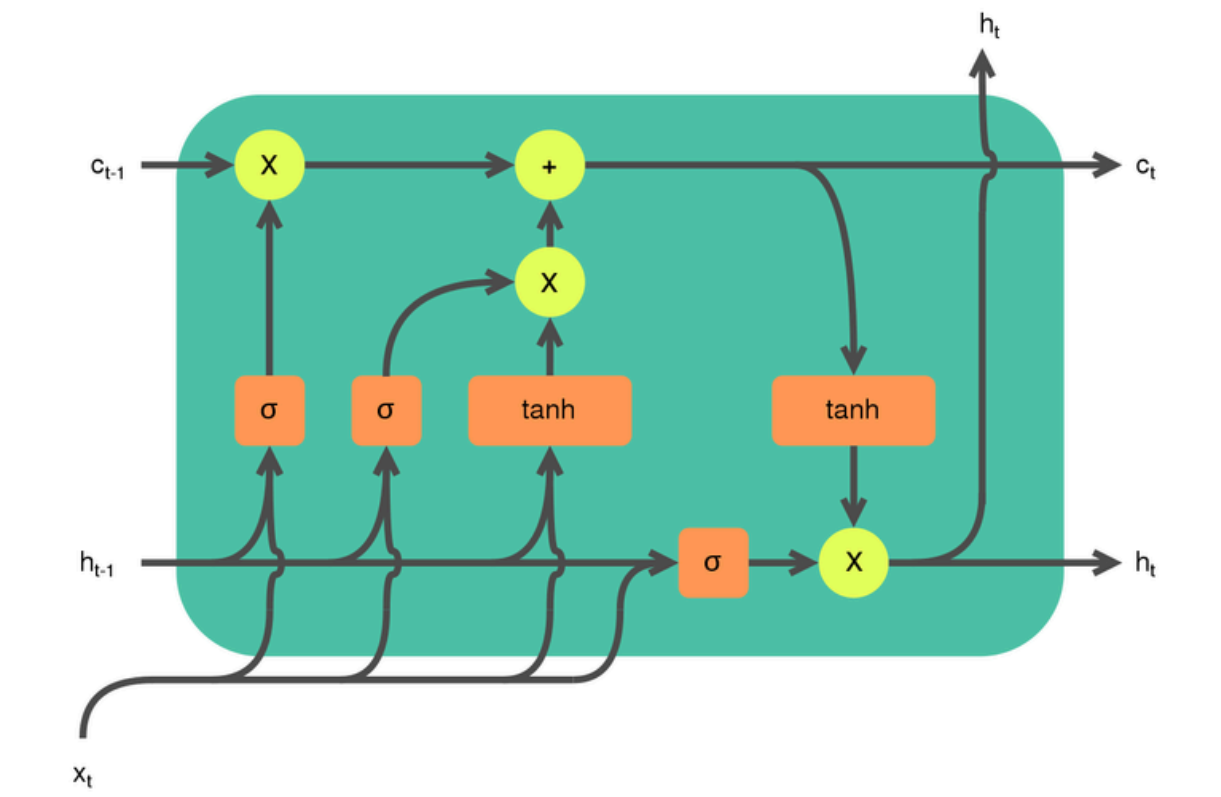




Model training

Model training





Window clipping of 60 timesteps

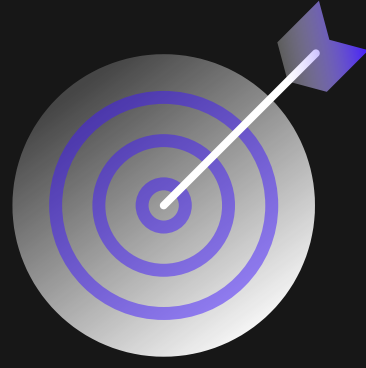
Layer No.	Type	Units/Output Shape
1	LSTM	50
2	Dropout	N/A
3	LSTM	50
4	Dropout	N/A
5	LSTM	50
6	Dropout	N/A
7	Dense	Output Shape: <code>y_train.shape[1]</code>

Model training

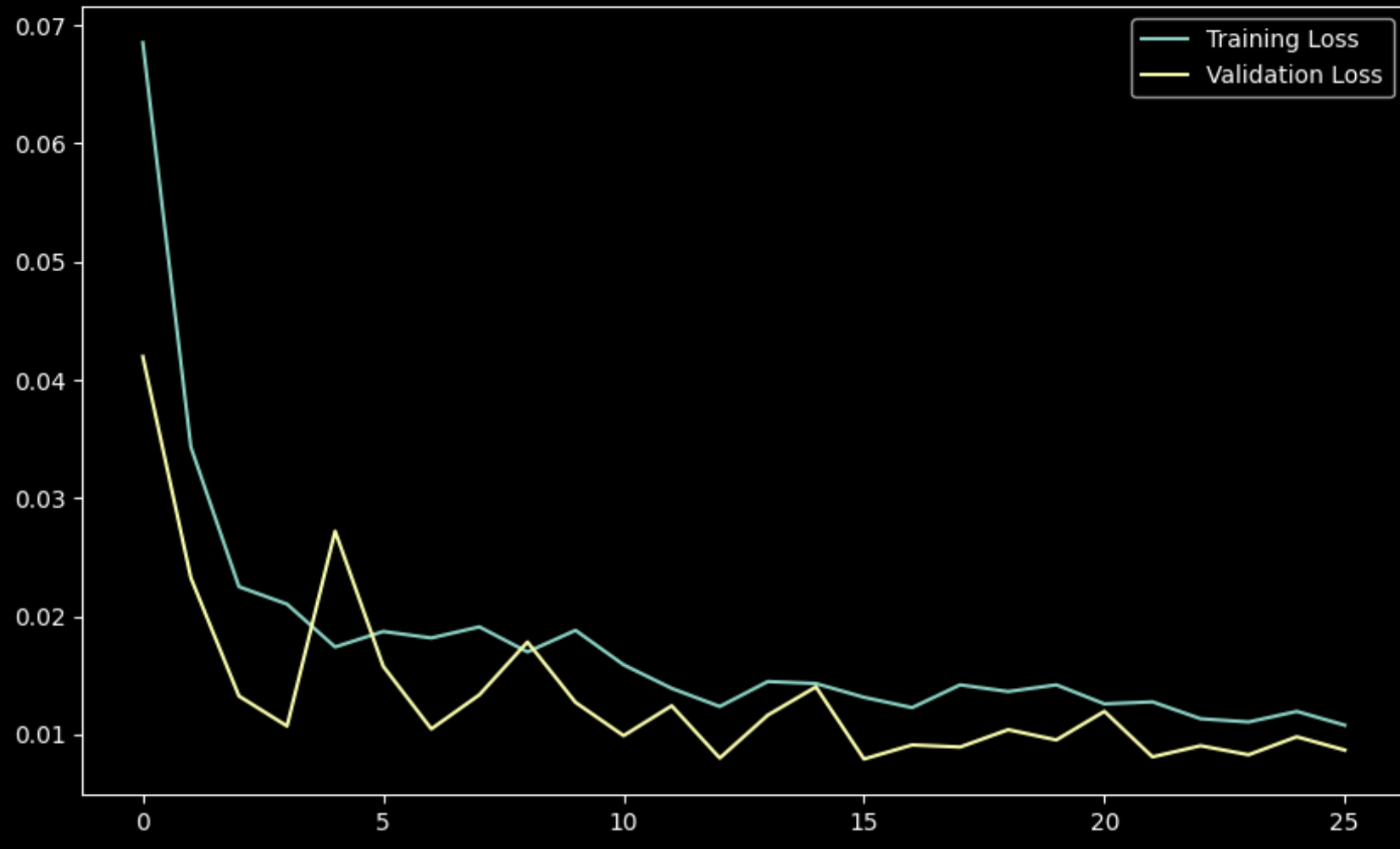
Model training



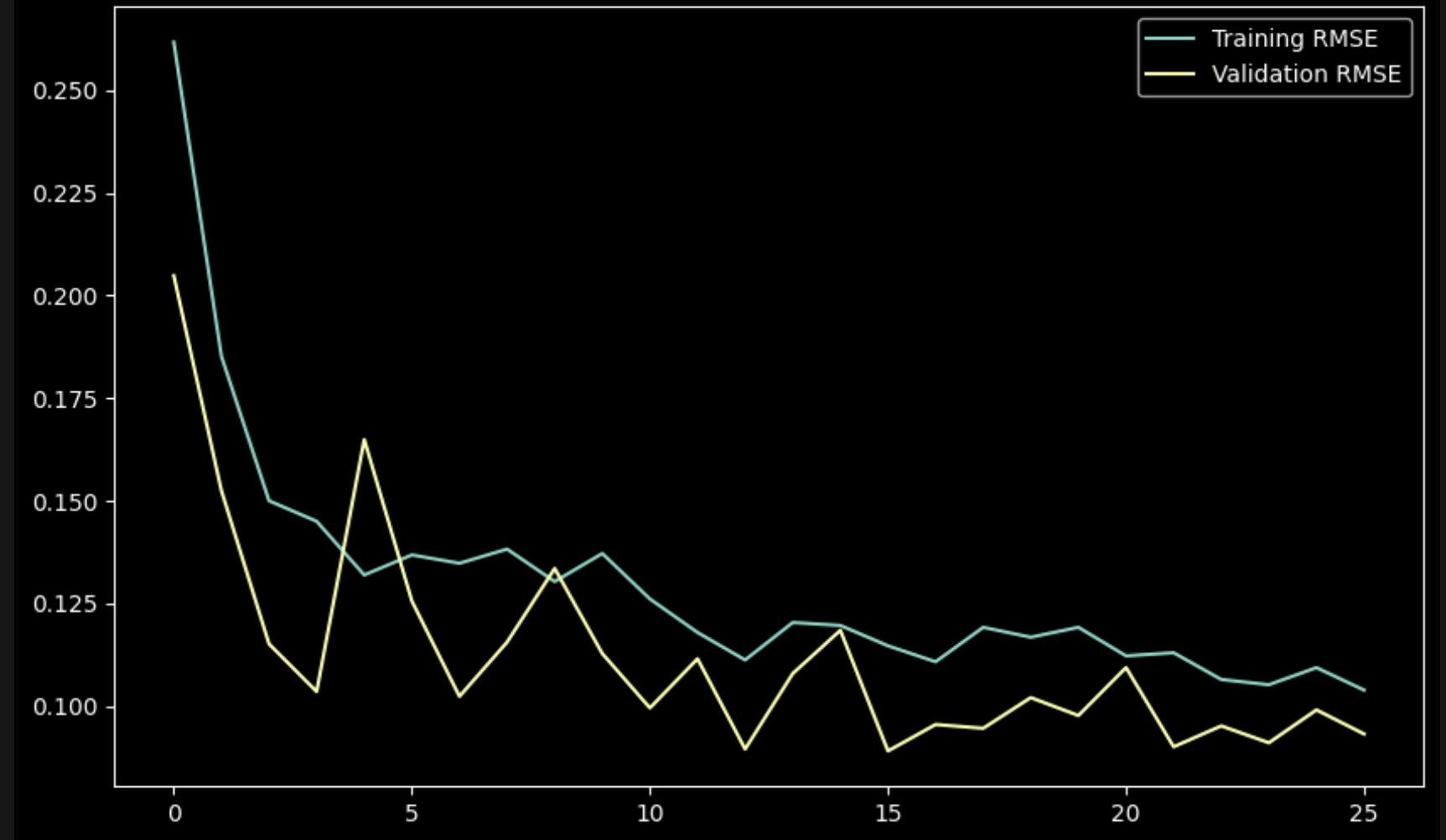
Results



Training and Validation Loss

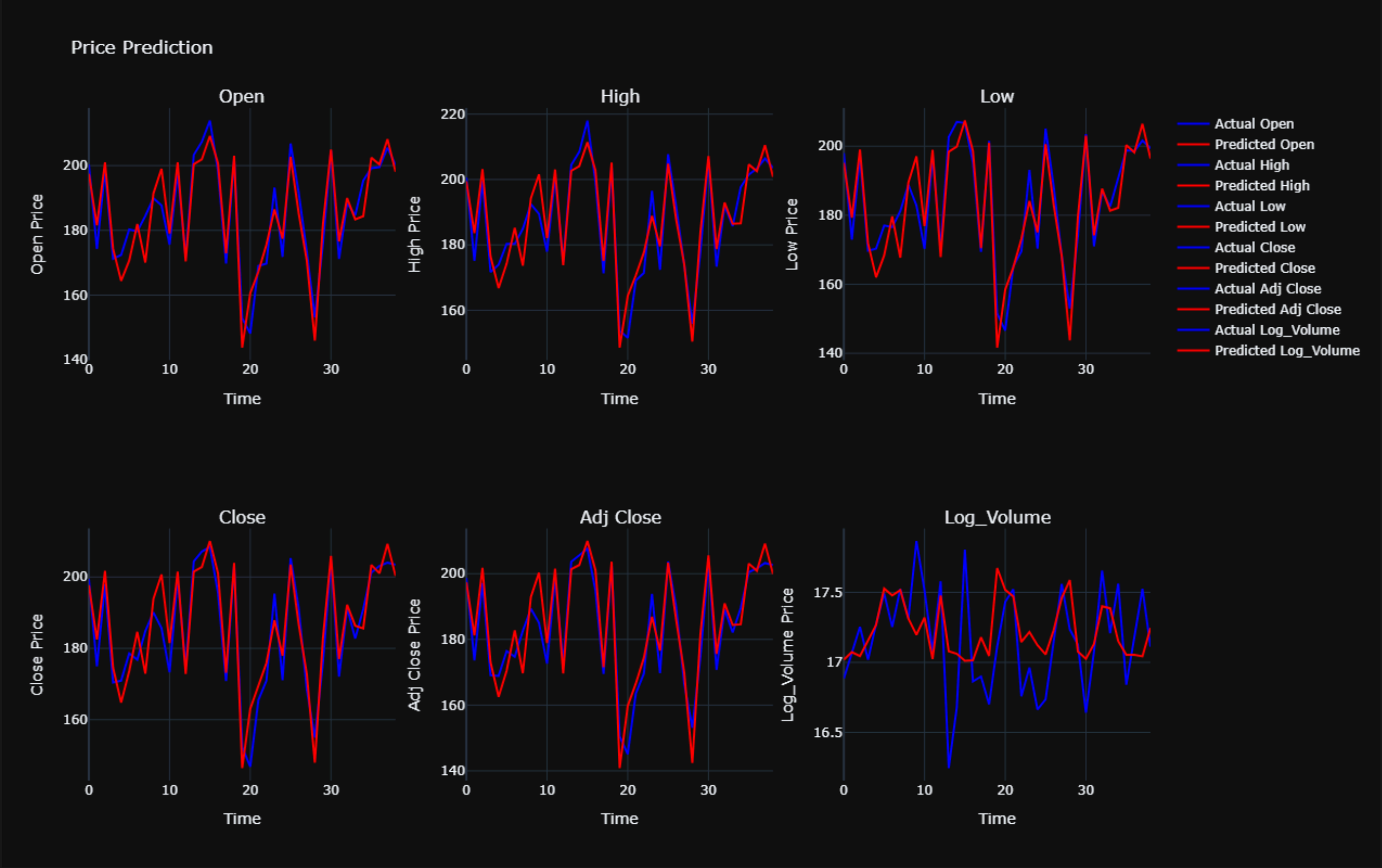
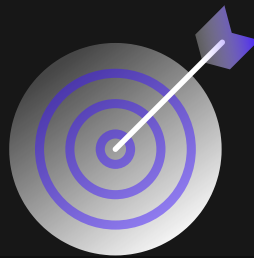


Training and Validation RMSE



Overall improvement in both Loss and RMSE

Results



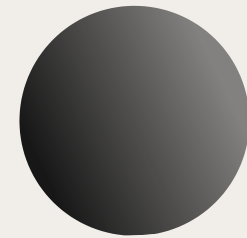
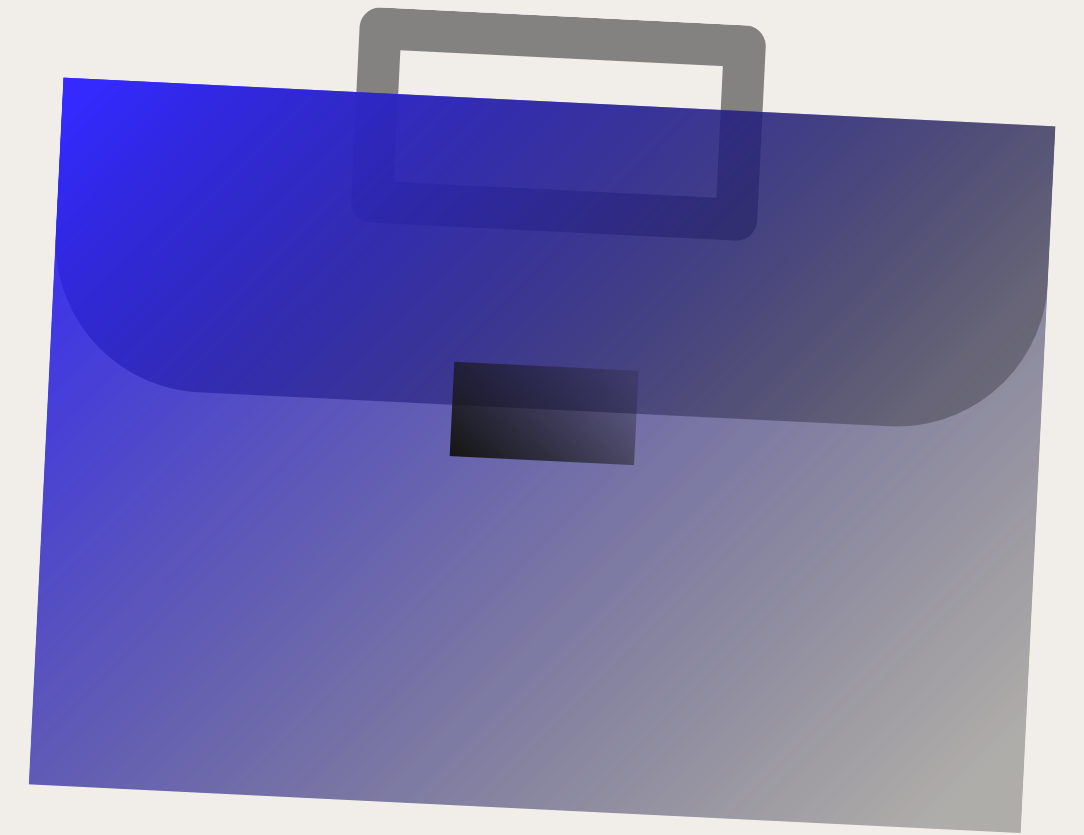
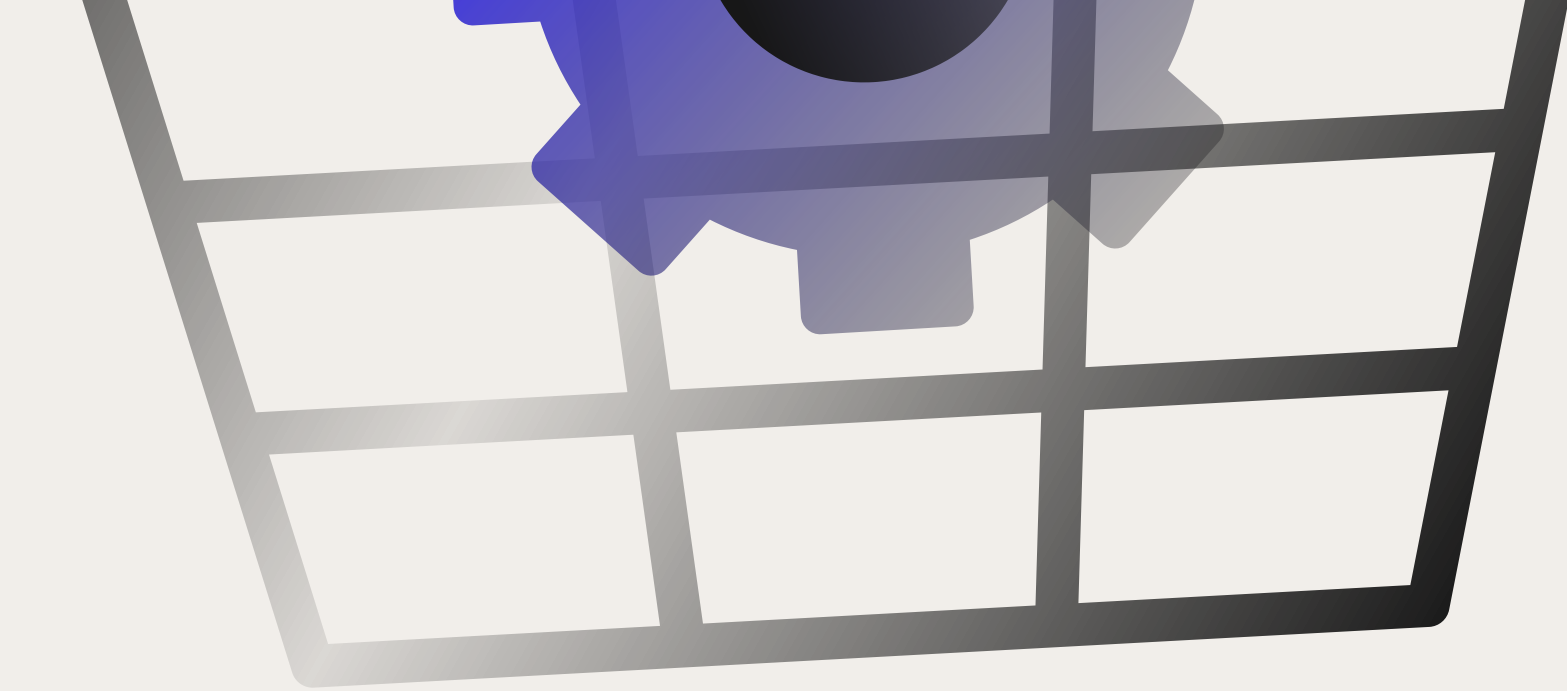
Forecasts

there is always room for improvement by incorporating additional factors such as sentiment analysis, which can provide valuable insights into market trends and further enhance prediction accuracy



Conclusion





Thank You

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