COS30018

Intelligent Systems

Task B.4

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Link to repository:https://github.com/SaynabIsmail/TaskB.4

Introduction

This task involves creating a function to build deep learning (DL) models automatically. Instead of building each DL network by hand, the function will let you specify how many layers you want, the size of each layer, and the type of layers (like LSTM, RNN, GRU). It will then put together a complete DL model based on these inputs. The report will explain how this function was developed and showcase the visual outputs.

Training and Validation loss

I started this assignment by working on enhancing the current stock-prediction.py file. Specifically, I focused on improving the tracking of training and validation loss to better evaluate the performance of the DL models.

Figure 1

Visual Output

Once I had completed the code the results were as follows:

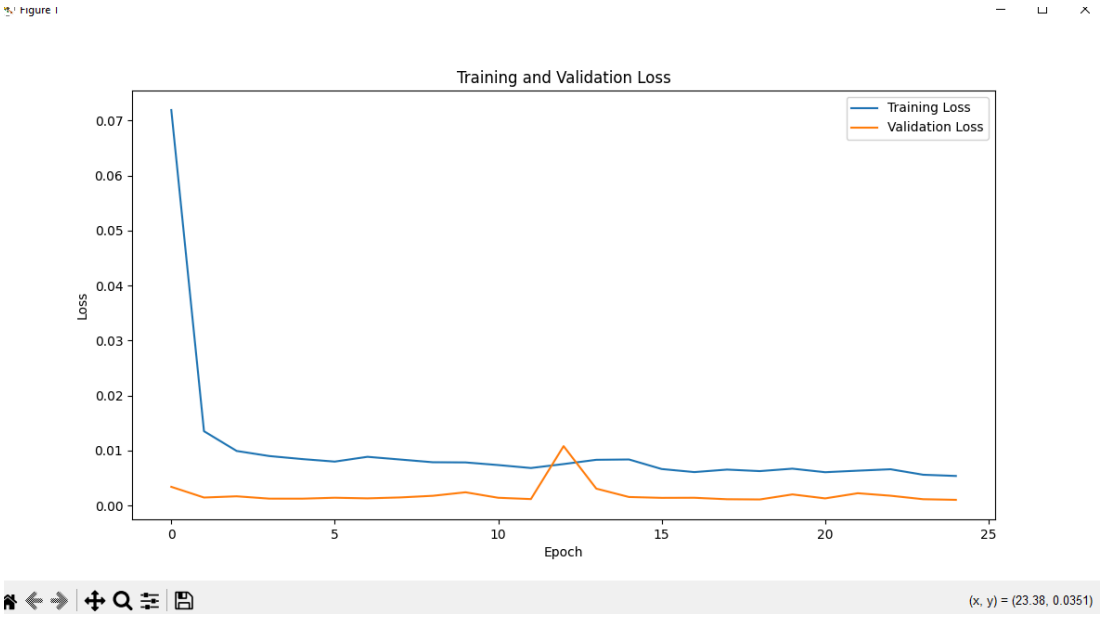

Figure 2

Training Loss: This shows how well the model is learning from the training data. If this number gets smaller over time, it means the model is getting better at understanding the data it was trained on.

Validation Loss: This measures how well the model performs on new, unseen data (the validation set). If this number also gets smaller, it means the model is good at generalizing its learning to new data.

The number below is the predicted value of the forecasted price of the stock

```
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 85ms/step
Prediction: [[121.27954]]
```

Figure 3

Issues:

N/A