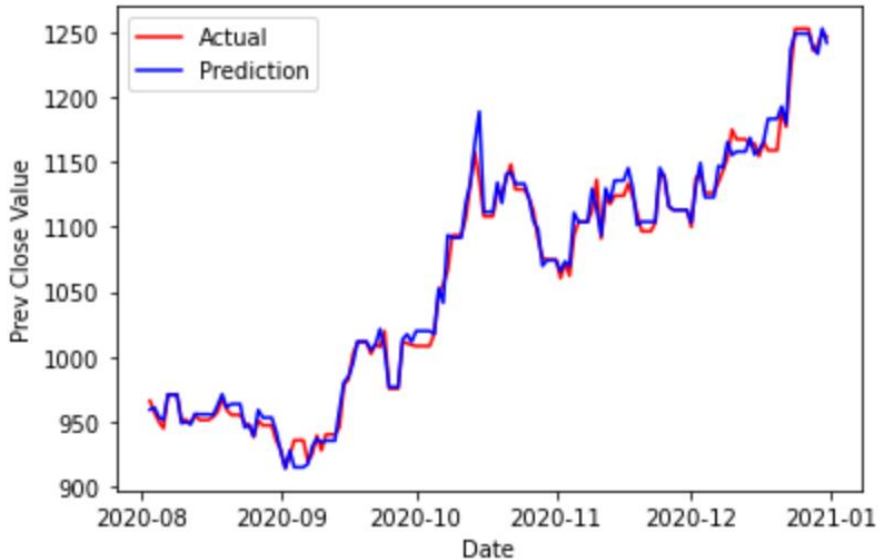




Research Project Progress Report

Week [7] – SIT723

Student Name:	Satvik Sharma
Supervisors' Names:	Prof. Maia Angelova
Project Title:	Financial Time Series Analysis with Machine Learning
SIT723 Target Grade:	Distinction
Overleaf Project Link:	https://www.overleaf.com/7593645898fsydrtqsdgzb
Project Folder Link:	https://deakin365.sharepoint.com/:f:/r/sites/SIT723-FinancialTimeSeriesAnalysiswithMachineLearning/Shared%20Documents/General/Satvik%20Sharma(218595095)?csf=1&web=1&e=0ayuEY
Worklog:	https://deakin365.sharepoint.com/:x:/r/sites/SIT723-FinancialTimeSeriesAnalysiswithMachineLearning/Shared%20Documents/General/Satvik%20Sharma(218595095)/Worklog.xlsx?d=w2cfbd3ab588d42f58966474ef14f85c2&csf=1&web=1&e=hp9uTj
Project Plan	
Summary of the work planned with your supervisor:	Development of SARIMAX model was the main target for this week. SARIMAX is a statistical model and it is a better version of the ARIMA model. Moreover, the week six task as well as the literature review has to be edited

<p>Summary of the work done:</p>	<p>The development of SARIMAX was completed and this is also the statistical model like ARIMA. The graph showed that the test and prediction was similar, meaning the model was working extremely well. The RMSE and the absolute error were 9.32 and 6.27 respectively. The graph between the prediction and the actual values is given below which shows the blue prediction line closely following the actual trend.</p> 
<p>Next steps:</p>	<p>The next step is to research more machine learning algorithms and find out which one outperforms the SARIMAX model. The next model that would be researched would be GARCHA and LSTM. If those models outperform SARIMAX, then they would be chosen as the model for the project.</p>
<p>Overall project progress:</p>	<p>Overall the progress of the project is going smoothly and by next week more of the machine learning models will be developed and the optimum model will be decided.</p>