

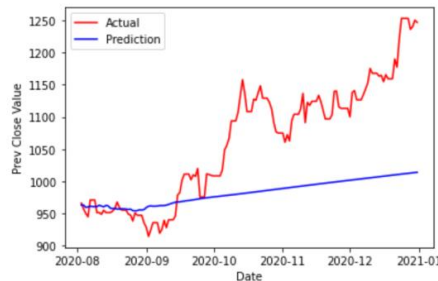


Research Project Progress Report

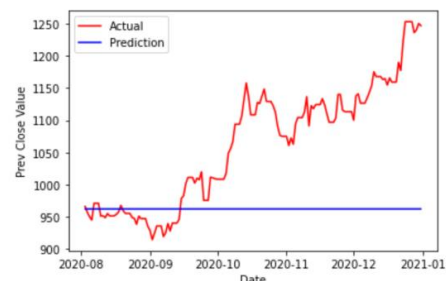
Week [8] – SIT723

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=Hctlhf
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=OLoN0n
Project Plan	
Summary of the work planned with your supervisor:	Development of more machine learning algorithms and comparing them and finding out the most optimum one was the main target. Along with that, the overleaf template was to be completed. Along with it trying the machine learning algorithms on different stocks and finding if one ML algorithm was better for one stock and the other ML algorithm better for other stock.

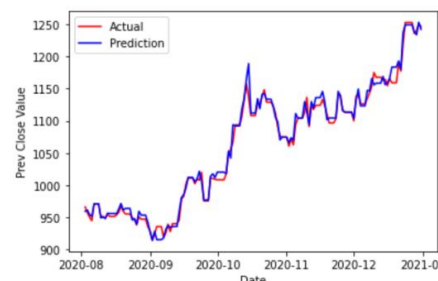
Throughout the week, four more machine learning algorithms namely Auto Regression, ARIMAX, SARIMA, and HWES. These were all the Statistical models and belong to the ARIMA family. Moreover, along with the Infosys stock, four more stocks were chosen, namely Maruti, Reliance, HDFC and ITC. The graphs of all the algorithms for the Infosys stock are shown below. Along with this, the overleaf was started.



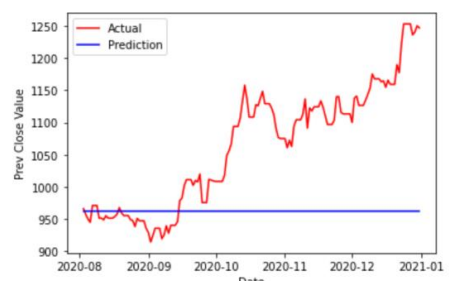
Auto Regression



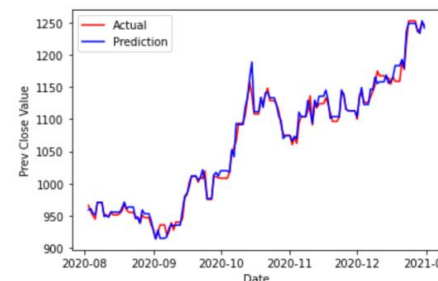
ARIMA



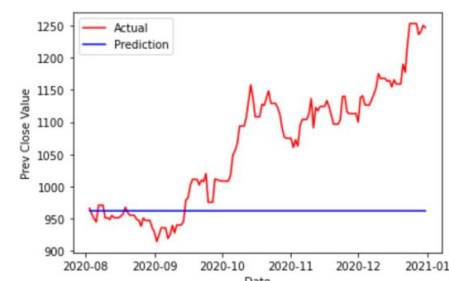
ARIMAX



SARIMA



SARIMAX



HWES

Summary of the work done:



Next steps:	Next step is to predict for the 1 year, 3 year and 5 years. Since, the year is 2022 and there is already data for 2 years, so it would be easier check the forecast of 1 year and the choosing the algorithm. Moreover, the completion towards the Overleaf article will also be going on throughout the next week.
Overall project progress:	Overall, the progress of the project is going smoothly and by next week overleaf and the optimum ML algorithms will be selected.