# COS30018 Assignment B – Task 6

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For this task, I implemented an ensemble prediction method which will combine prediction results from the models already implemented, as well as a new ARIMA model.

A computer screen shot of a program code

Description automatically generated

The function takes in the training and test data, data scalers, the prediction window, the trained model from previously and some set weights for if I want to make the arima or second model more important.

A new arima model is created and trained using the same data. A forecast or prediction is made using the armia model. Then once we make a prediction like we did in previous iterations of the project, the results are added together to form an aggregated result.

Arima and GRU seemed to be the most effective ensemble, but both models seem to be limiting the lows and highs somewhat. The overall trends and shapes are correct, but it never reaches the same highs or lows. Perhaps different data scaling or improving the model training could remedy this.

Here are the results of the ensemble predictions:

Arima + lstm

A screenshot of a graph

Description automatically generated

Arima + GRU

A screenshot of a graph

Description automatically generated