Final Results

1. Final Training Results

No significant changes have been made to the model from the previous deliverable. In order to balance the dataset, oversampling methods, undersampling methods, and SMOTE have been tested. Although undersampling reduces data for the model, it showed the best accuracy scores (approx. 80%) relative to oversampling and SMOTE (approx. 75%). The train/test split has been modified from a 90/10 split to an 85/15 split to better judge the model's performance. Considering the confusion matrix results, we can see that the main diagonal representing the cases where the actual values and the model predictions are the same has much larger values than the incorrect predictions.

	Neut	**Pos**	**Neg**
Neut	**70**	4	6
Pos	**10**	**77**	**11**
Neg	**5**	**18**	**71**

2. Final Demonstration Proposal

The model will be integrated into a web app built on the Flask web framework. The web app will allow users to insert text directly into a text area or a URL of a news article. If a URL is provided, a web scrapper will gather the article's content and feed it directly to the model. Considering the time constraint before the AI project fair, this feature might not be functional at the demo showcase but will be implemented later. Once the " analyze " button is clicked, the result will be displayed. The technologies used are Flask, HTML, and CSS. The choice of stacks was based on prior experience using such technologies and the project's complexity.