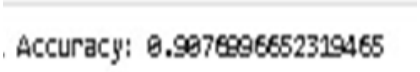
Model Development Phase Template

Date	1 November 2024
Team ID	SWTID1726834817
Project Title	Fake News Analysis in social media using NLP
Maximum Marks	6 Marks

Model Selection Report

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

Model Selection Report:

Model	Description	Hyperparameters	Performance Metric (e.g., Accuracy, F1 Score)
Random Forest	An ensemble of decision trees that improves predictive accuracy and robustness. It handles complex relationships well, reduces overfitting, and provides insights into feature importance.	n_estimators max_depth min_samples_split min_samples_leaf max_features	
Decision Tree	A simple, interpretable model that uses a tree-like structure to make predictions. It captures non-linear relationships and is effective for gaining insights into patterns of fake news classification.	max_depth min_samples_split min_samples_leaf	

KNN	A classification algorithm that relies on the nearest neighbors to make predictions. It adapts well to local variations in data, making it useful for identifying patterns in fake news detection.	n_neighbors	Accuracy: 0.5442372070779531
Gradient Boosting	An ensemble technique that builds trees sequentially to optimize performance. It effectively captures complex patterns and relationships in the data, leading to accurate predictions in fake news analysis.	n_estimators learning_rate	Accuracy: 0.8919177427068389