**News Classification:**

The authenticity of Information has become a longstanding issue affecting businesses and society, both for printed and digital media. On social networks, the reach and effects of information spread occur at such a fast pace and so amplified that distorted, inaccurate or false information acquires a tremendous potential to cause real world impacts, within minutes, for millions of users. The main aim of News Classification is to analyze the Fake & Real News and build a model which can distinguish a Real News from a Fake one, using Natural Language Processing Techniques and Machine Learning Models.

Dataset contains 5 features and 44,921 records. All features are Categorical features. Data is only having used based news.

The dataset were cleaned, converted into lowercase, process of lemmatization were applied in order to avoid any irregularities in our model.

File includes all Data Cleaning, Data Visualization, and Predictive Modeling with required Data Visualization in their support.

Since we were using NLP techniques to achieve categorization of the text reviews, we used count vectorizer and TF- IDF techniques and analyzed the scores for each of the following. We performed K-Fold Analysis as well for each of the models in order to get better accuracy. Hence after vigorous analysis we decided to follow the TFIDF approach and conclude that Random Forest model is the best fit for our Fake News Classification

**Result:**

Created News Classifier using Natural Language Processing –TFIDF and Machine Learning - Random Forest Model techniques with 99.5% Accuracy at 95% Confidence Interval. And created Web app GUI at

Gradio.

**Screenshot of Pre-Deployment using Gradio GUI with BMW Used Car Prediction.**

