

### 1.Title:

Unmasking Fake News for a More Informed World

### 2.Project Statement:

Thanks to the digital era, any news can spread world-wide within fraction of seconds. But, are the things we read on the sites always accurate? This news is sometimes fraudulent, and the terrible aspect is that many people believe them and even follow them, which has led to some dangerous outcomes. AI is being used by companies such as Facebook, Google, and others to detect and remove false news from their platforms. The goal is to identify the fake news by glancing at the text.

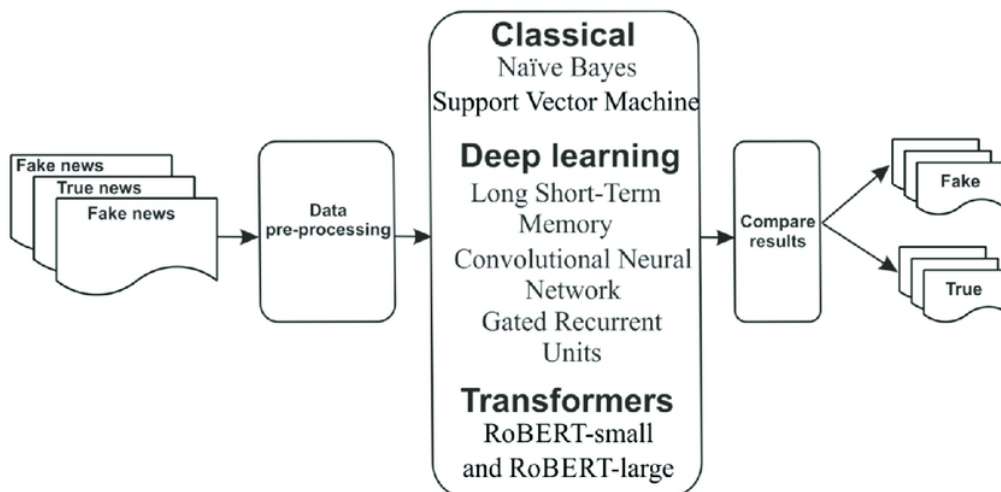
### Outcomes:

Perform text denoising on the text corpus.

Identify the text as fishy or not using neural nets.

### Modules to be implemented

1. Data Collection – Text Corpus related to news articles
2. Data Exploration (EDA) and Data Preprocessing
3. Build a deep learning model
4. Hyperparameter tuning
5. Performance metrics
6. Presentation and Documentation



### 3. Week-wise module implementation and high-level requirements with output screenshots

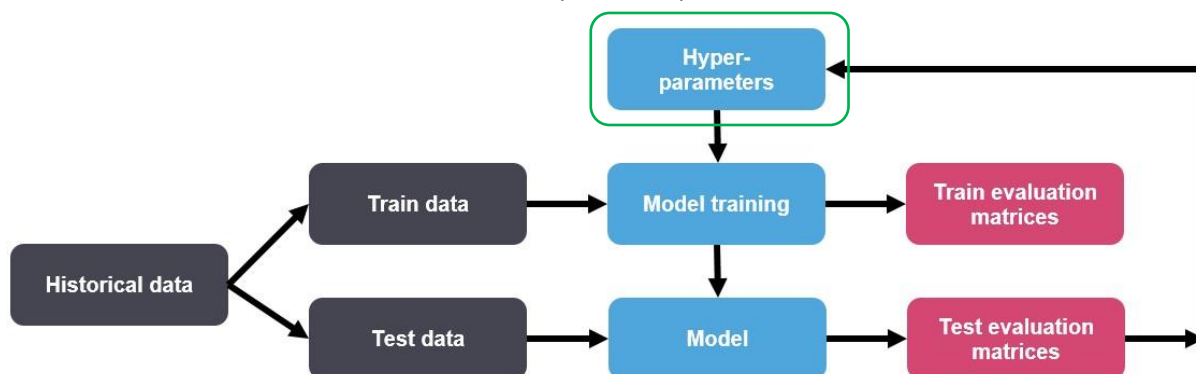
#### Milestone 1: Weeks 1-2

##### Module 1: Data Collection

- Understand the problem statement
- Collect data from multiple sources and collect them.
- Finalize the master dataset
- Sample dataset related to Fake News can be found at [FakeNews Dataset](#)



- Finalize the model with best results in performance metrics report
- Test the model on validation dataset and capture the performance metrics.



Classification Report Train				
	precision	recall	f1-score	support
0	0.95	0.98	0.97	199020
1	0.98	0.95	0.96	199021
accuracy			0.97	398041
macro avg	0.97	0.97	0.97	398041
weighted avg	0.97	0.97	0.97	398041

Classification Report Test				
	precision	recall	f1-score	support
0	0.95	0.98	0.97	85295
1	0.98	0.95	0.96	85294
accuracy			0.97	170589
macro avg	0.97	0.97	0.97	170589
weighted avg	0.97	0.97	0.97	170589

#### Milestone 4: Weeks 8

##### Module 5: Presentations and Documentation

- Prepare a presentation which has to include the details of the problem statement, details of the data collected, data preprocessing methods and its outcomes, model building methodology, Hyperparameters, performance metrics and recommendations based on the outcome.
- Project document which should capture the same topics mentioned above in more detailed format.

#### Evaluation Criteria:

##### Milestone 1 Evaluation (Week 2):

- Approval on the master dataset to be used.
- Approval on the Independent Variables to be used, based on the Univariate and Bivariate Analysis performed on the master data.
- Approval on the data preprocessing techniques.
- Approval on data treatments performed on the data.

##### Milestone 2 Evaluation (Week 3-5):

- Approval on deep learning architectures and Models to be used on the master dataset.

##### Milestone 3 Evaluation (Week 6-7):

- Approved Hyperparameter tuning process and range of parameters.
- Completion - Performance Metrics on all the built Models.

**Milestone 4 Evaluation (Week 8):**

- Approved Final Model.
- Approved Presentation and Project Documentation.
- Approved Remediation/Action plans for the Business.
- Final Code Submissions on GitHub.