**FAKE NEWS DETECTION PROJECT**

# TEAM-13

## GIREESHA DHULIPUDI (21B21A44E9)

## JAMI NARASIMHA SATYA SAIRAM (21B21A44C5)

## ALLADA MAHESHBABU (21B21A44D9)

## BANDI MOHAN SURYA (21B21A44F2)

## SAKA SRI RAMA KRISHNA (22B25A4403)

# **ABSTRACT:**

### In the digital age, the rapid spread of misinformation and fake news has become a significant challenge, impacting public opinion, politics, and societal stability. This project focuses on developing a **Natural Language Processing (NLP)-based Fake News Detection System** that can effectively classify news articles as real or fake. Using advanced machine learning techniques, including deep learning models such as Long Short-Term Memory (LSTM) and Transformer-based architectures like BERT, the system analyzes textual data to identify deceptive content. The project involves data preprocessing, feature extraction, and model training on benchmark datasets to enhance accuracy. The proposed model aims to assist users in verifying news credibility, thereby mitigating the influence of misinformation in online media.

# **Technologies to be Used:**

1)Programming Language: Python

2)Libraries & Frameworks:

NLP: NLTK, spaCy, TextBlob

Vectorization: TF-IDF, Word2Vec, CountVectorizer

Machine Learning: Scikit-learn (Logistic Regression, Random Forest, SVM)

Deep Learning: TensorFlow/Keras (LSTMs, Transformers like BERT)

3)Dataset: Fake News datasets from Kaggle, LIAR dataset, or custom dataset.

# **INPUT:**

* Users can enter a news headline or article for verification.
* For a fake news detection project, you typically provide text-based input that resembles real or fake news articles.

# **PROCESS:**

**Problem Definition:** Define the objective—detect whether a news article is fake or real.

**Data Collection:** Gather fake and real news datasets from trusted sources.

**Data Preprocessing:**

Tokenization, Lemmatization Stopword Removal

Vectorization (TF-IDF, Word2Vec, etc.)

**Model Selection & Training:**

Train traditional ML models (Logistic Regression, SVM, Random Forest)

Use Deep Learning (LSTMs, BERT for better accuracy)

**Evaluation:** Use metrics like accuracy, precision, recall, and F1-score.

**Deployment (Optional):** Create a web-based application for real-time detection using Flask/Django.

# **OUTPUT:**

* Web-based interface for inputting news articles.
* Displaying results in an easy-to-understand format.
* Like this is Fake News or Real News.