Phase-1 Submission Template

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Institution: Mailam engineering College

Department: Electronics and communication engineering

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1.Problem Statement
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The rise of fake news on digital platform misleads the public and spreds misinformation rapidly and manual time consuming is not stable.

2.Objectives of the Project

. [To develop an intelligent system that to detects and classified fake news using natural language processing (NPL).and machine learning techniques, helping user identity misinformation quickly and accurately.

3.Scope of the Project

.   Analyze and process new articles or social media post using natural language processing, (NPL).Train and evaluate machine learning models to classify news as real or fake.build a user-friendly interface (optional) to allow user to input and verify news

4.Data Sources
   * LIAR Dataset
   * Fake news net
   *Kaggle
   *COVID-19 Fake news dataset
   * Buzzsed news fact-checked dataset

5.High-Level Methodology
[There is a huge types of database for

- Data Collection – *gather label data sets of real and fake news some trusted source example:Kaggle(LIAR),Fakenewsnet .*

- Data Cleaning – clean the test:remove noise(HTML tags,

  punctuation,stopwords).
- Exploratory Data Analysis - EDA is the process of analysing datasets to

  summarize their main characteristics often using visual method.

- Feature Engineering – converts texts into a numerical features using TF -

  IDF,bag of words,or word embeddeing ex-word 2 vec,BERT.
- Model Building – build*ing is the process of creating predictive model*

  using data, usually after performing exploratory data analysis.
- Model Evaluation – Evaluate performance using metrics like accuracy,

  precision,Recall and F1-Score.
- Visualization & Interpretation – bar chat:count of real vs fake news

  articles.Word cloud:most common words in fake news and real news.
- Deployment – create a simple UI using flask and streamlet to allow users to

  input and verify news content in real time.

6.Tools and Technologies
Here is a concise overview of the essential tools and techniques.

● Programming Language – python -for data preprocessing,model building and deployment.

● Notebook/IDE – jupyter notebook and Google colab

● Libraries – libraries like NLTK and spaCy are instrumental in text

preprocessing and linguistic analysis

● Optional Tools for Deployment – seldon core,BentoML

7.Team Members and Roles

MONICA S - TEAM LEADER
KANIMOZHI M- DATA SCIENTIST
A.R PRANESH - FRONTEND DEVELOPER
MAHESH S- BACKEND DEVELOPER