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| **Date** | **01-11-2023** |
| **Team ID** | **1056** |
| **Project Name** | **Fake news detection using NLP** |

**Project Overview:**

This project aims to create an AI-based system for the detection of fake news using Natural Language Processing (NLP) techniques in the Google Colab environment. The project is divided into four phases: Ideation, Design and Innovation, Development, and Model Training.

**Phase 1: Ideation Phase**

**Problem Statement:**

Detecting fake news accurately is a challenging task influenced by numerous linguistic and contextual factors, including the language used, sentiment, source credibility, and content structure. The central problem of this project is to build a robust model that can effectively identify fake news by incorporating these intricate linguistic and contextual factors.

**Design Thinking:**

We initiated the project by brainstorming and conceptualizing it, focusing on design and innovation strategies tailored for Fake News Detection using NLP techniques in the Google Colab environment. This phase involved creative thinking about how to approach the complex task of distinguishing genuine news from fake news and exploring innovative approaches to tackle this problem effectively.

**Phase 2: Design and Innovation**

In this phase, we outlined the design and innovation strategies that will be used to predict diabetes.

**Phase 3: Development (Part 1)**

**Google Colab File:**

We created a Google Colab for data preprocessing and loading.

**Data Exploration:**

Explored and visualized the dataset.

**Platform:**

We ran the code in Google Colab.

**Dependencies:**

Imported necessary libraries.

**Dataset:**

Loaded and explored the dataset.

**Phase 4: Model Training:**

**Machine Learning Algorithm:**

We selected the Naïve bayes algorithm for model training.

**Google Colab File:**

Created a new Google Colab for the model training.

**Dependencies:**

Imported relevant dependencies.

**NLTK Resources:**

Downloaded and utilized NLTK resources for text preprocessing.

**Training:**

Trained a Naïve bayes algorithm.

**Evaluation:**

Evaluated the predicting performance.

**Results:**

Displayed the evaluation results in Google Colab.

GitHub: Uploaded the project to GitHub for sharing and collaboration.

Running the Code

**To run this code, follow these steps:**

Clone the GitHub repository to your local machine:

Bash

Copy code

git clone https://github.com/abishek17624/NM\_AI\_1056\_Fake-News-Detection-Using-NLP

Open the project folder in your Google Colab environment.

Navigate to the "Development" or "Model Training" phase in the Google Colab and execute the code cells step by step.

Make sure to install the required dependencies mentioned in the notebook using !pip install or !conda install.

Ensure that you have downloaded the necessary NLTK resources for text preprocessing.

Once the model is trained and evaluated, you can test it on new data for diabetes prediction.

**Dependencies:**

The following dependencies are required to run this project:

Python (>=3.6)

Google Colab

Pandas

NumPy

Naïve bayes theorem

Script learning

Scikit-learn

You can install these dependencies using pip:

**Copy code :**

pip install pandas numpy and add dataset then Kaggle-learn