FAKE NEWS DETECTION USING SVM

USER MANUAL

TABLE OF CONTENT

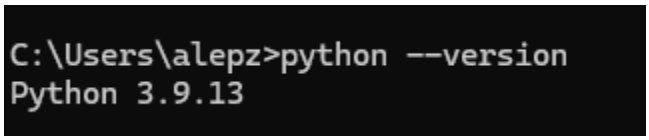
1. SYSTEM REQUIREMENTS

1.1. Python Version

This project is built using the Python programming language. You **must have Python version 3.8 or newer** installed on your computer. You can check if Python is installed by opening a terminal (or Command Prompt on Windows) and type:

```
python --version
```

It will show your version of python installed on your computer like this:



If Python is not found or the version is below 3.8, you can download it from the official site here. https://www.python.org/downloads/

Note: During installation, make sure to check the box that says **"Add Python to PATH"** before clicking "Install Now".

1.2. Internet Connection

An internet connection is **required only once**, during the setup phase. It is needed to download required Python libraries using pip, download stopwords from nltk (natural language processing toolkit).

After installation, the project can run offline and no internet is needed to use the model or check news titles.

1.3. Terminal or Command Line Access

You will need to use a terminal/command prompt to navigate to the project folder, run Python scripts (main.py) and install libraries.

How to Open Terminal:

OS	**How to Access**
Windows	Press Windows + R, type cmd, then press Enter
macOS	Press Cmd + Space, type Terminal, and press Enter
Linux	Use Ctrl + Alt + T to open terminal

Once opened, you can run commands like:

`cd path-to-project` - navigate to project directory.
`python main.py` - run main.py.

1.4. Recommended Tools

Tool	**Purpose**
Visual Studio Code	To view and edit Python code in a user-friendly editor.
Git	To clone a project repository from GitHub.

2. INSTALLATION STEPS

2.1. Download the project files

To download the project files, go to the GitHub repository link below in your browser. Click the green **“Code”** button and select **“Download ZIP”**. Extract the ZIP file anywhere on your computer and open the extracted folder.

Link : https://github.com/alifizuddin/fake-news-detection-using-svm

2.2. Install required libraries

Install all the necessary Python libraries using the *requirements.txt* file included in the project by using this command:

```
pip install -r requirements.txt
```

This file contains all the packages your project needs like pandas, nltk, sklearn and tkinter.

Installation Complete!

You are now ready to run the program and test news headlines.

3. HOW TO RUN

To run the main program/solution, please follow steps below:

In your terminal, run the same command below:

```
python main.py
```

You can also manually run the main.py file through your Visual Studio Code.

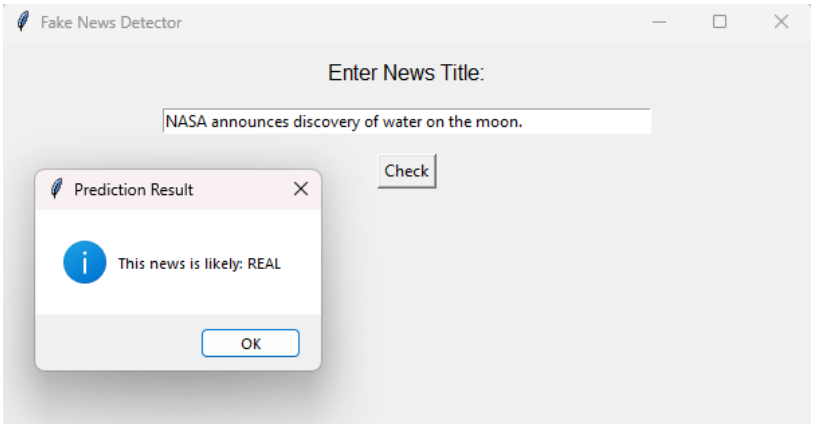
A window will appear titled “Fake News Detector”. You can enter a specific news title into the input box. Once done, click the “Check” button. A message box will pop up showing whether the news is REAL or FAKE. Below will be the visualization of how the UI will show up after the program execution.

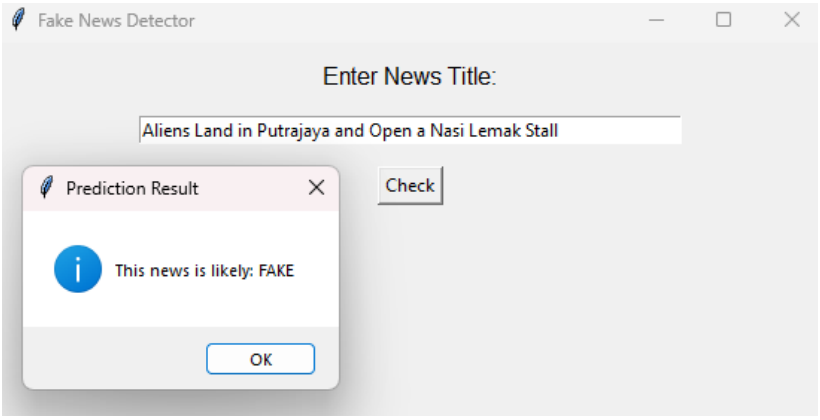
4. SAMPLE INPUT AND OUTPUT

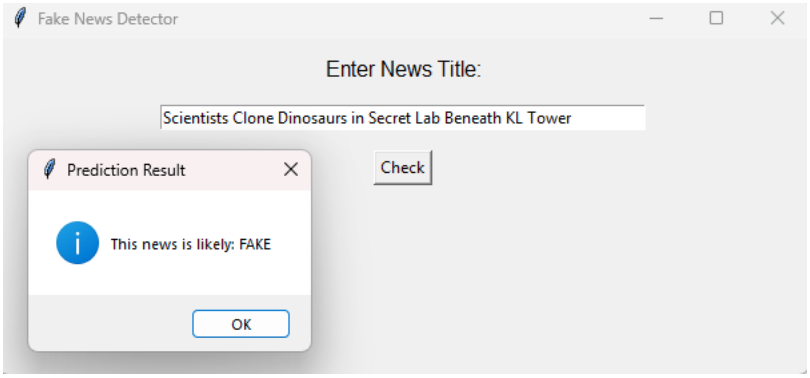
To test whether this system provides accurate prediction on the news, we have tested the system using familiar news headlines. The examples of headlines we have used are stated below.

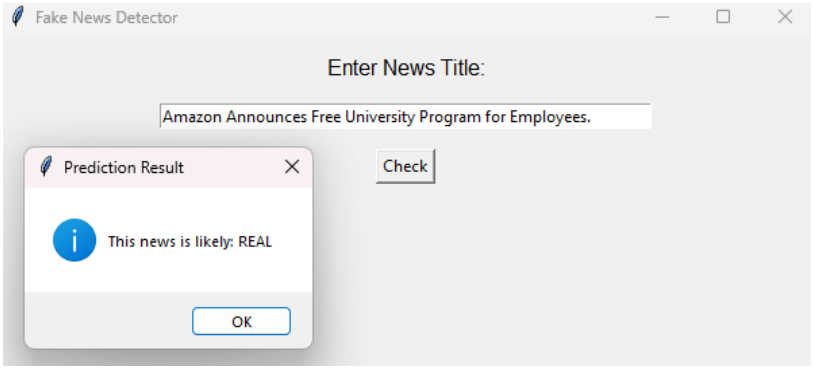
Headlines	Output	
	Predicted	Actual
NASA announces discovery of water on the moon.	REAL	REAL
Aliens Land in Malaysia to Open Nasi Lemak Stall.	FAKE	FAKE
Scientists Clone Dinosaurs in Secret Lab Beneath KL Tower	FAKE	FAKE
Amazon Announces Free University Program for Employees.	REAL	REAL
Google Introduces New AI Tool for Developers.	REAL	REAL
UTM Declares Exams Optional After AI Revolution.	FAKE	FAKE

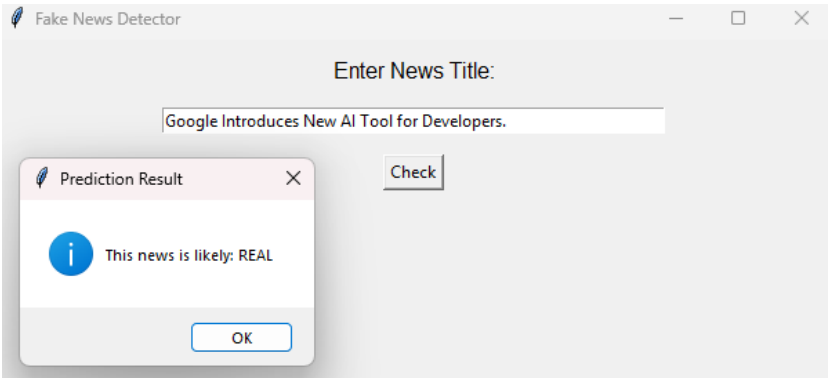
Results of the testing will be shown below. Be noted that some of your input might have wrong output from the system as the system only used a single dataset which contains an inconsistent number of fake and real news.

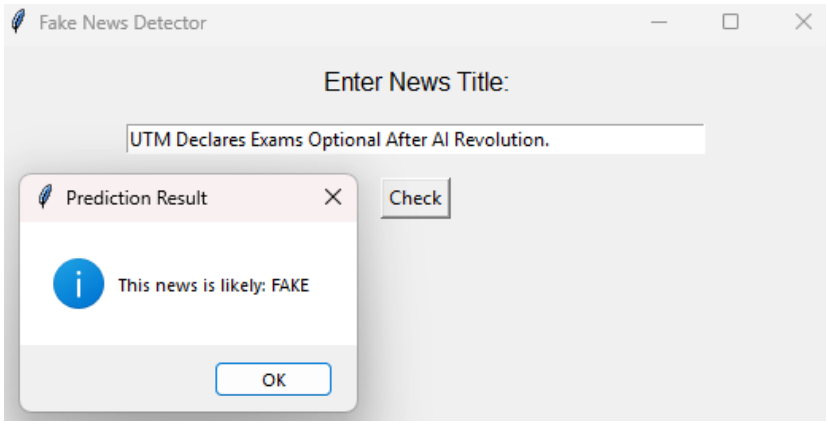

Fake News Detector
Enter News Title:
NASA announces discovery of water on the moon.
Check
Prediction Result
This news is likely: REAL
OK


Fake News Detector
Enter News Title:
Aliens Land in Putrajaya and Open a Nasi Lemak Stall
Check
Prediction Result
This news is likely: FAKE
OK


Fake News Detector
Enter News Title:
Scientists Clone Dinosaurs in Secret Lab Beneath KL Tower
Check
Prediction Result
This news is likely: FAKE
OK


Fake News Detector
Enter News Title:
Amazon Announces Free University Program for Employees.
Check
Prediction Result
This news is likely: REAL
OK





5. TROUBLESHOOT

This section helps users fix common problems they might face when running your Fake News Detection system.

5.1. Issue: ModuleNotFoundError (e.g. pandas, sklearn)

This is usually caused by required Python libraries not installed in your computer. To fix this, open terminal and run:

```
pip install -r requirements.txt
```

If it's a specific error like ModuleNotFoundError: No module named 'nltk', you can install it individually.

```
pip install nltk
```

5.2. Issue: FileNotFoundError: FakeNewsNet.csv not found

This is usually caused by the dataset file that is missing or not in the right location. To fix this :

- Make sure FakeNewsNet.csv is located in the dataset/ folder.
- Ensure the line in the code that reads the dataset file points to the correct path. Eg:

```
pd.read_csv("dataset/FakeNewsNet.csv")
```

6. CREDITS

This Fake News Detection System was developed by:

- Muhammad Alif Izuddin – [Role: Coding & Documentation]
- Danish Hakimi and Luqmanul Hakim – [Role: Dataset Cleaning, Testing]
- Muhammad Zhahir – [Role: GUI & Reporting]
- Norikwan Haikal – [Role: Presentation, Writing Final Report]