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BHOPAL

Vityarthi project

Readme.md

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📌 Project Overview

This project is a Spam Message Detection System built using Python, Machine Learning (Naive Bayes), and a simple Tkinter GUI.
The application allows users to type any message and instantly predicts whether it is:

- Spam
- Not Spam (Ham)

It is a lightweight and beginner-friendly project suitable for 1st-year B.Tech AI & ML students.

✨ Features

- ✔ Detects spam messages using the Naive Bayes ML model
- ✔ Text preprocessing (cleaning, lowercasing, punctuation removal)
- ✔ TF-IDF vectorization
- ✔ Simple and clean Tkinter-based GUI
- ✔ “Detect Spam” & “Clear” buttons
- ✔ Instant on-screen results
- ✔ Runs offline

🛠️ Technologies / Tools Used

Programming Language

- Python 3.x

Libraries

- pandas – for dataset handling
- sklearn – for machine learning
- numpy – for numerical operations
- re – for text preprocessing
- tkinter – for GUI interface

Environment

- Works best in Anaconda Python 3.13.5 (base)
- Compatible with VS Code / PyCharm / Jupyter / Terminal

📥 Steps to Install & Run the Project

1️⃣ Install Required Packages

2️⃣ Download or Copy the Project File

3️⃣ Run the Project

4️⃣ GUI Window Appears

🧪 Instructions for Testing

1. Enter any text message into the input box
2. Click “Detect Spam”
3. A popup message will display:
   - Spam Detected, or
   - Not Spam (Ham)
4. Click “Clear” to reset the text field
5. Try various messages such as:
   - “Congratulations! You won a free prize!” → Spam
   - “Hey, what time is the class?” → Not Spam

This completes testing of the system.