GEOGPT USER MANUAL

1. OVERVIEW

GeoGPT is an advanced geospatial data processing tool designed to streamline and enhance the analysis of geographic information. Combining intuitive graphical interfaces with cutting-edge AI models like GPT-4, GeoGPT empowers users to extract insights from shapefiles and CSV data efficiently. Its design emphasizes usability, adaptability, and precision, making it suitable for diverse industries requiring geospatial intelligence.

2. SYSTEM REQUIREMENTS

To ensure optimal performance, the following system requirements must be met:

- Operating System: Compatible with Windows, macOS, and Linux.
- Python Version: 3.10 or later.
- Dependencies: The requirements.txt file in the repository lists all necessary libraries.

Install these via:

pip install -r requirements.txt

3. INSTALLATION

- Clone the Repository: Retrieve the GeoGPT project files from GitHub:
  git clone https://github.com/NikhilMuralikrishna/GeoGPT_Project.git
- Navigate to the Project Directory:
  cd GeoGPT_Project
- Install Dependencies: Use the included requirements.txt file:
  pip install -r requirements.txt
- Replace **your_openai_api_key_here** with your actual API key in **congif.ini** from the root directory.
- Verify Setup: Ensure all libraries are correctly installed before launching the application.

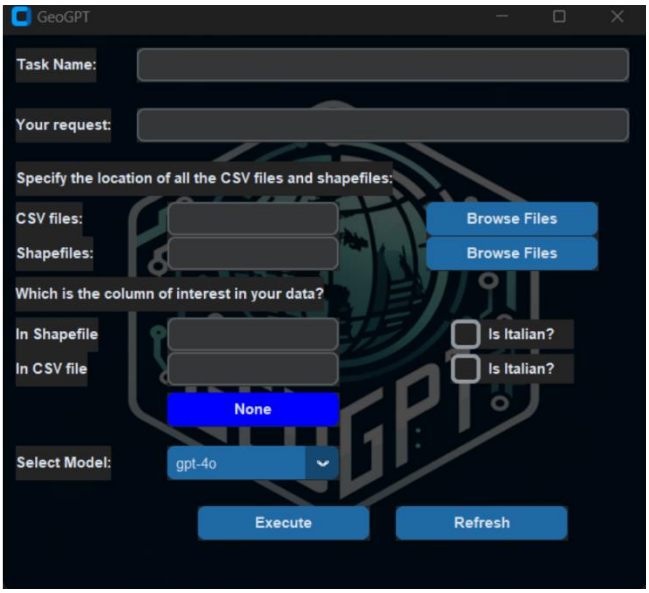
4. LAUNCHING THE APPLICATION

- Open a terminal or command prompt and navigate to the GeoGPT directory:
  cd GeoGPT_Project
- Start the graphical interface:
  python GeoGPT.py
- The GeoGPT interface will appear, ready for use.

5. USER INTERFACE GUIDE

GeoGPT's interface is designed for simplicity and efficiency. Below is an explanation of its core components:

User Interface



Task Setup

- **Task Name:** Provide a unique identifier for your task. This will serve as the folder name for outputs.
- **Your Request:** Enter a high-level description of the task you wish to perform.

Input Data

- **CSV Files:** Use the Browse Files button to upload the required CSV file containing your tabular data.
- **Shapefiles:** Use the Browse Files button to upload the geospatial shapefile (.shp).

Columns of Interest

Specify the key columns to be used in the analysis:

- In **Shapefile:** Enter the column name from the shapefile. Check the Is Italian? checkbox if the column contains data in Italian.
- In **CSV File:** Enter the column name from the CSV file. Similarly, check the Is Italian? checkbox if applicable.
- **None** Option: If there are no specific columns of interest, click the None button to skip this step.

Model Selection

Select the AI model to use for the task from the dropdown menu. Options include:

- **GPT-4o:** Optimized for general-purpose tasks.
- **GPT-4:** Advanced model for complex analyses.

Execute

Click the **Execute** button to begin processing. GeoGPT will process the inputs and generate the outputs in a dedicated folder.

Refresh

Use the **Refresh** button to clear all inputs and reset the interface for a new task.

6. OUTPUT AND RESULTS

Upon successful execution, GeoGPT saves the results in a folder named after the task.

The output folder is located in the current working directory.

7. BEST PRACTICES

Input Data:

- Ensure the CSV and shapefile data are properly formatted and aligned.
- Avoid ambiguous or duplicate column names to ensure seamless processing.

Task Requests:

- Provide clear, concise task descriptions in the Your Request field.
- Tailor requests to leverage the strengths of AI models for optimal results.

Output Review:

- Examine outputs thoroughly to ensure they meet project requirements.
- Use outputs as a foundation for deeper geospatial analysis and decision-making.