How to Run the Earthquake Monitoring Streamlit App (Local System)

This guide explains how to run the Earthquake Monitoring & Alert System Streamlit app from your local machine.

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1. Download Files from GitHub

Clone or download the repository containing all files:

GitHub repository:
https://github.com/d-hetalpatel/earthquake-prediction.git

To clone using Git:

git clone https://github.com/d-hetalpatel/earthquake-prediction.git

cd earthquake-prediction

This will download all necessary files including streamlit_app_1.py and supporting datasets.

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2. Files Required

Make sure all the following files are in the same folder:

streamlit_app_1.py → Streamlit app

fault_line.csv & volcanic.csv → Supporting datasets

Note: The trained ML model is large and stored on Google Drive. It will be automatically downloaded when you first run the app if it is not present locally.

Google Drive link for model:
https://drive.google.com/file/d/19ZXoo_qSDfuabmvLrMEB7ywp7mjGywvR/view?usp=drive_link

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3. Open Anaconda Prompt

Launch Anaconda Prompt (Windows) or your terminal with Python/conda environment.

Navigate to the folder containing the files:

cd path\to\your\folder

Replace path\to\your\folder with the actual folder location.

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4. Run the Streamlit App

In the Anaconda Prompt, type:

streamlit run streamlit_app_1.py

This will:

Automatically download the trained model from Google Drive if it is not already in the folder

Open the Streamlit app in your default browser

Load the trained model and datasets

Display a dashboard with earthquake predictions, alerts, maps, and charts

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5. Using the App

Sidebar Controls

Magnitude Alert Threshold: Minimum earthquake magnitude for alerts

Aftershock Probability Threshold: Minimum aftershock probability for alerts

Region Filter: Filter earthquakes by location

Time Window: Last 24 hours, 7 days, or 30 days

Send Webhook Alerts: Optional alert notifications

Dashboard Sections

Alert Summary: Shows High, Moderate, and Low-risk alerts

Predictions Table: Detailed earthquake predictions

Seismic Hotspots Map: Interactive map with risk colors

Trend Charts: Visualize magnitude trends and aftershock probabilities

Download Predictions: Save predictions as CSV