Full-Stack Developer Assignment:

Objective:

Create a full-stack application that allows users to store and interact with geographical data (vector and raster) through a Django-based backend and a NextJS frontend using Leaflet for map-based visualization.

Tasks:

1. **Backend (Django & Django REST Framework)**:
   - Create a Django model to store geographical data (e.g., vector data like GeoJSON, and raster data like TIFF. Samples are provided in the folder but you can use data sources from outside if you wish to).
   - Develop a REST API endpoint using Django REST Framework to:
     - Post data (vector or raster) to the server.
     - Retrieve the stored data in a geo-format (e.g., GeoJSON for vector data, or links to raster files).
2. **Frontend (NextJS & Leaflet)**:
   - Build a NextJS app with a simple interactive map using the Leaflet library.
   - Fetch data from the Django API and display it on the map.
     - Display vector data as map layers.
     - If raster data is present, render it as a tile layer.
3. **Containerization (Docker)**:
   - Dockerize both the Django backend and NextJS frontend applications.
   - Ensure smooth communication between the two services in a Docker Compose setup.
4. **Deployment (Optional)**:
   - Optionally deploy the containerized app to a cloud platform (e.g., Google Cloud, AWS, or DigitalOcean).
5. *Write instructions* **in README.md to run the applications.**

IMPORTANT:

- **PLEASE CLONE THE REPOSITORY**
- Have all your code on **YOUR ad-hoc private GitHub** repository and **share access** with **info@ai2peat.ie**
- Deadline (strict): **Tuesday 17th at 12:00 PM (IST)**
- Use your initiative to fill in any conceptual gaps you might find while implementing your work. Make sure you motivate your choices in the README.md file as well