

Project Title: Developing Geospatial Data Repository for Disaster Response

Project Description:

During disasters, remote sensing plays a vital role in assessing damage and identifying affected areas. However, its effectiveness is greatly enhanced when combined with essential geospatial data, such as population distribution, infrastructure maps, and healthcare facility locations. This project aims to identify the most reliable and openly available geospatial datasets across different countries and develop a system for on-demand geospatial data retrieval and visualization for better decision-making during disasters.

Project Type: Research and Engineering

Internship Batch:

- Batch 1: May 11 to July 10, suitable for Education City students, i.e., CMUQ, TAMUQ and HBKU students

Duties/Activities:

1. Prepare a list of the most effective geospatial data
2. Identify suitable data sources for the identified geospatial layers
3. Implement data retrievers for different data sources
4. Use Elasticsearch database to store the geospatial data
5. Develop an interface to visualize the downloaded geospatial data layers

Required Skills:

Knowledge of Python, ability to work with Geojson and geospatial datasets, experience with API integration.

Preferred Intern Academic Level: 2nd year onwards

Learning Opportunities:

This task will help the intern gain experience in remote sensing, data collection and storage (elasticsearch), working with APIs, tools to download the data and organizing large datasets for analysis in the context of disaster management.

Expected Team Size:

Either 1 or 2

Mentors

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