

Project 7: Earthquake Prediction Model using Python

Problem Definition: The problem is to develop an earthquake prediction model using a Kaggle dataset. The objective is to explore and understand the key features of earthquake data, visualize the data on a world map for a global overview, split the data for training and testing, and build a neural network model to predict earthquake magnitudes based on the given features.

Design Thinking:

1. **Data Source:** Choose a suitable Kaggle dataset containing earthquake data with features like date, time, latitude, longitude, depth, and magnitude.
2. **Feature Exploration:** Analyze and understand the distribution, correlations, and characteristics of the key features.
3. **Visualization:** Create a world map visualization to display earthquake frequency distribution.
4. **Data Splitting:** Split the dataset into a training set and a test set for model validation.
5. **Model Development:** Build a neural network model for earthquake magnitude prediction.
6. **Training and Evaluation:** Train the model on the training set and evaluate its performance on the test set.