

Project Presentation  
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# EARTHQUAKE PREDICTION MODEL USING PYTHON

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# CONTEXT

The National Earthquake Information Center (NEIC) determines the location and size of all significant earthquakes that occur worldwide and disseminates this information immediately to national and international agencies, scientists, critical facilities, and the general public. The NEIC compiles and provides to scientists and to the public an extensive seismic database that serves as a foundation for scientific research through the operation of modern digital national and global seismograph networks and cooperative international agreements. The NEIC is the national data center and archive for earthquake information.



# CONTENT

This dataset includes a record of the date, time, location, depth, magnitude, and source of every earthquake with a reported magnitude 5.5 or higher since 1965.

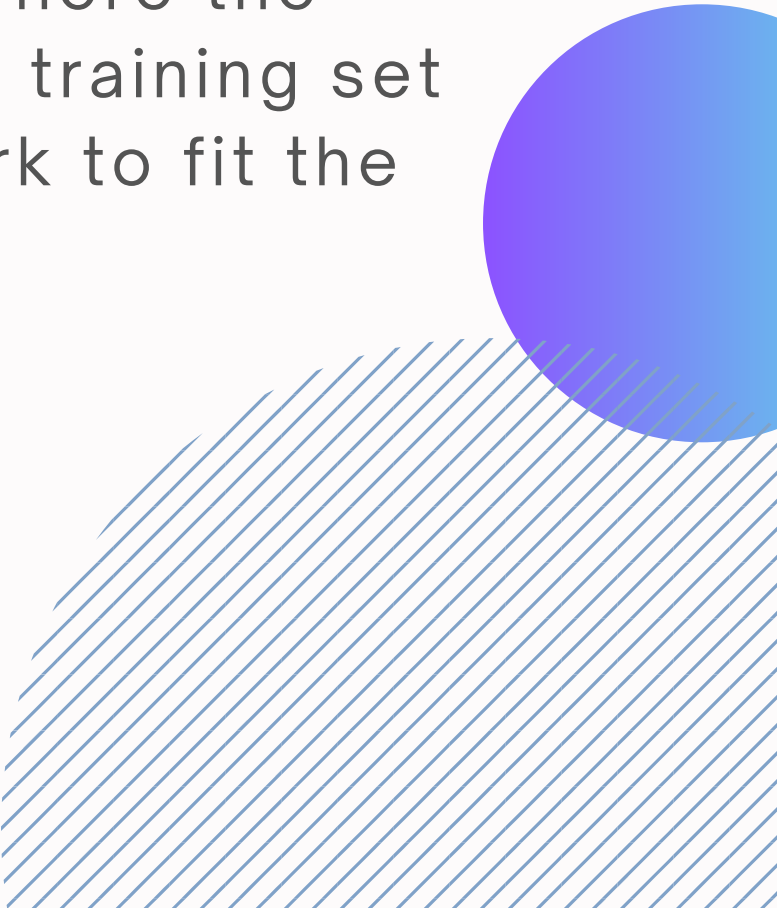






# PROBLEM STATEMENT

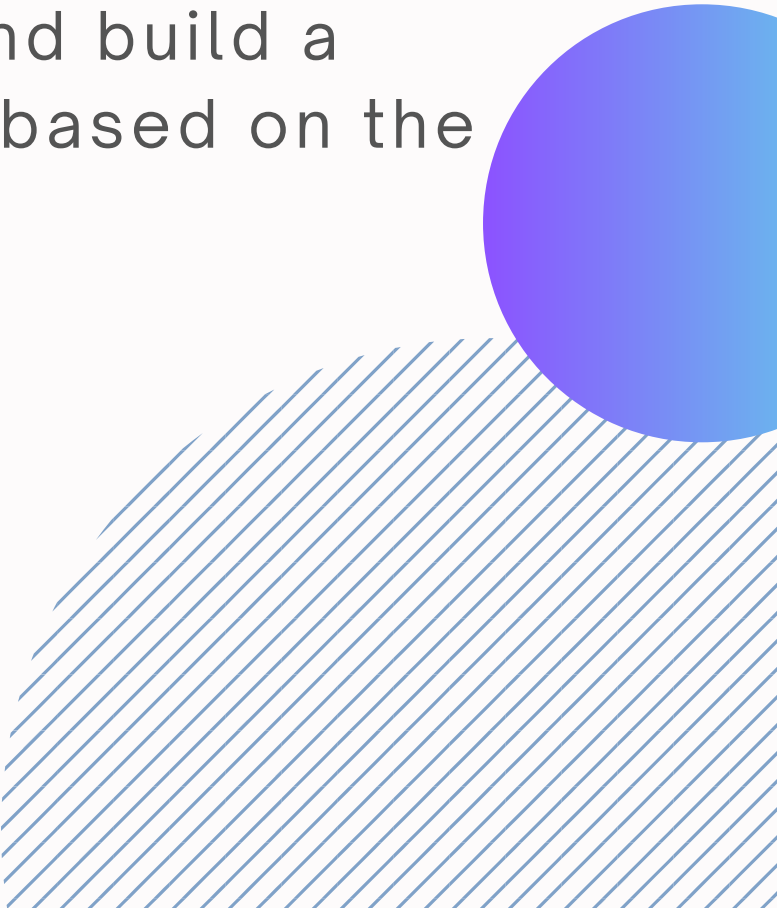
Explore the key features of earthquake data and design an object for those features, such as date, time, latitude, longitude, depth, and magnitude. Before developing the prediction model, visualize the data on a world map to display a complete overview of where the earthquake frequency will be higher. Split the data into a training set and a test set for validation. Lastly, build a neural network to fit the data from the training set.





# 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.

**THANK YOU!**

