

Earthquake prediction model using python

RESULT

- The random forest-support vector machine model in combination work well for large dataset.
- The accuracy obtained for stacking model is the highest- 83% as compared to the accuracy of bagging and boosting. Response time is same for all the methodologies. Training time taken is slightly higher for stacking.
- Results are as follows :

Table- I: Result Table

Parametes/ Algorithms	ACCURACY	TRAINING TIME	RESPONSE TIME
Bagging	74%	3m5sec	5 sec
Boosting	76%	3m19sec	5sec
Stacking	83%	11m37sec	5sec

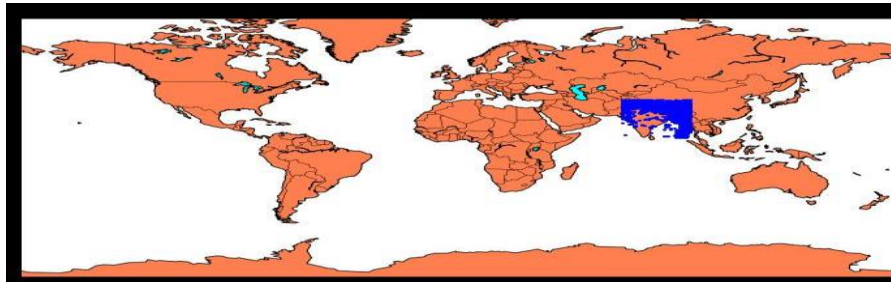
PREDICTIONS

Algorithm:

1. Input data-set and load libraries.
2. Data Pre-processing.
3. Model Building.
4. Making Predictions.

Data Visualization:

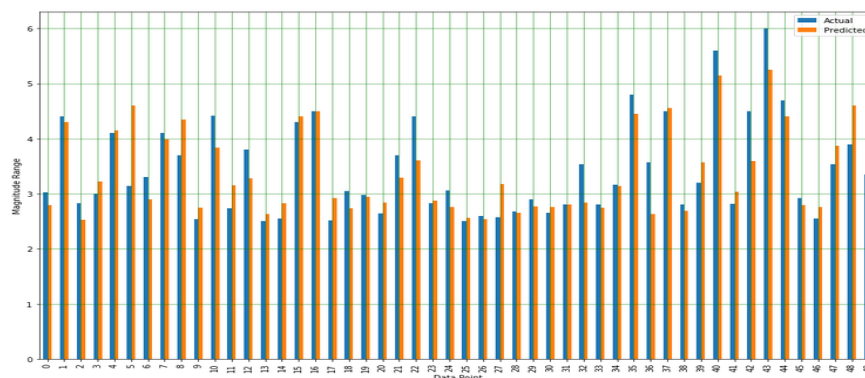
1. Affected Areas



Data Visualization for Indian Sub-Continent

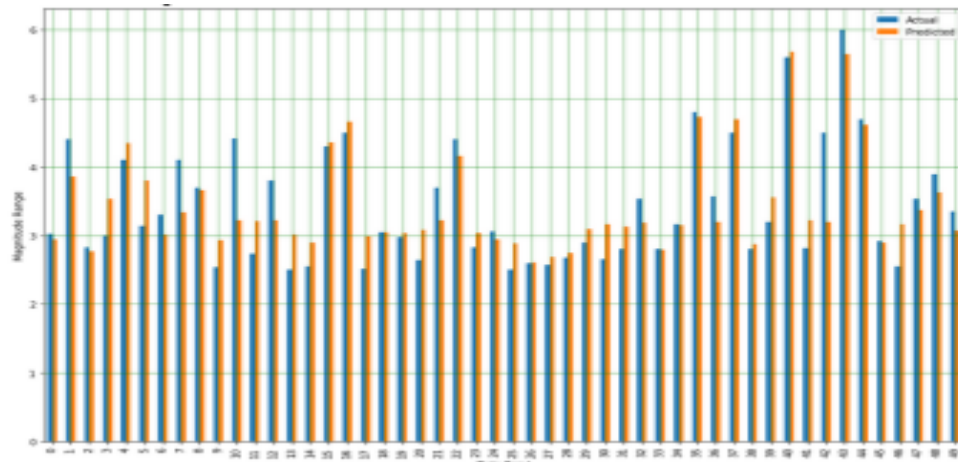
Prediction Using Stacking

Accuracy: 83%



Prediction Using Boosting

Accuracy: 76%



Bar plot for Bagging

CONCLUSION

- Thus we can conclude that integration of seismic activity with machine learning technology yields efficient and significant result and can be used to predict earthquakes widely, given the past history of the same is well maintained.
- Our attempt can be termed successful.
- The collaboration of the two can further be advanced to guard earthquakes more acutely. Large datasets prove to be very significant.
- Prediction models can be deployed in an area-centric manner, thus increasing the chances of accurate prediction exponentially but at the cost of studying algorithms used to build Stacking model, as it will perform well only if the algorithms chosen to build metaregressor are accurate themselves.
- The use of the methodology can be expanded in predicting various natural disasters as well.