

# NASA Planetoid Stratification

## *Abstract*

Asteroids are **leftovers from the formation of our solar system about 4.6 billion years ago**. There exist millions of asteroids and the vast majority of known asteroids orbit within the central asteroid belt located between the orbits of mars and jupiter. With an asteroid hitting the Earth ,dust and smoke rising in the atmosphere prevents sunlight from reaching our world and causes the total temperature to drop. This event can lead to the death of many living organisms.

The only way to eliminate the threat of the asteroid hitting the earth is to divert them from their course. Many organizations, primarily NASA, performs regular scans of the sky to identify celestial bodies at risk of hitting our earth. But before the diverting the asteroid from its path it is much needed to find out whether it is precarious or not. In earlier times astronomers used to use ground-space-based telescopes to detect the threat from celestial bodies. As technology is evolving day by day we want to detect the precarity using machine learning algorithms like Logistic regression, Decision tree, XGBoosting, Random forest.

This type of stratification helps in enhancing the efforts of NASA there by providing more accurate results that helps to prevent the planet from hazardous asteroids.

***Index Terms*—Logistic regression ,Decision tree ,Random forest ,XGBoosting.**

## ***Libraries Required:***

- 1.Numpy
- 2.Matplotlib
- 3.Seaborn
- 4.Pandas
- 5.SKlearn.

## **REFERENCES (IF REQUIRED)**

- 1)<https://ieeexplore.ieee.org/document/9697222>
- 2)<https://ieeexplore.ieee.org/document/9753945>
- 3)[https://www.aanda.org/articles/aa/full\\_html/2021/05/aa38545-20/aa38545-20.html](https://www.aanda.org/articles/aa/full_html/2021/05/aa38545-20/aa38545-20.html)
- 4)<https://towardsdatascience.com/nasa-asteroid-classification-6949bda3b1da>

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