

Anbita Siregar

Asteroid Classification Analysis

Summary

NASA data detailing asteroid information near Earth aims to classify whether asteroids are hazardous or non-hazardous.

Recommendation #1

Create internal alerting system for larger asteroids.

Recommendation #2

Monitor asteroids closer to Earth.

Recommendation #3

Tune modeling that focus on most important features for hazard classification.

Outline

Business Problem

Data & Methods

Results

Conclusions

Business Problem



Resources Allocation

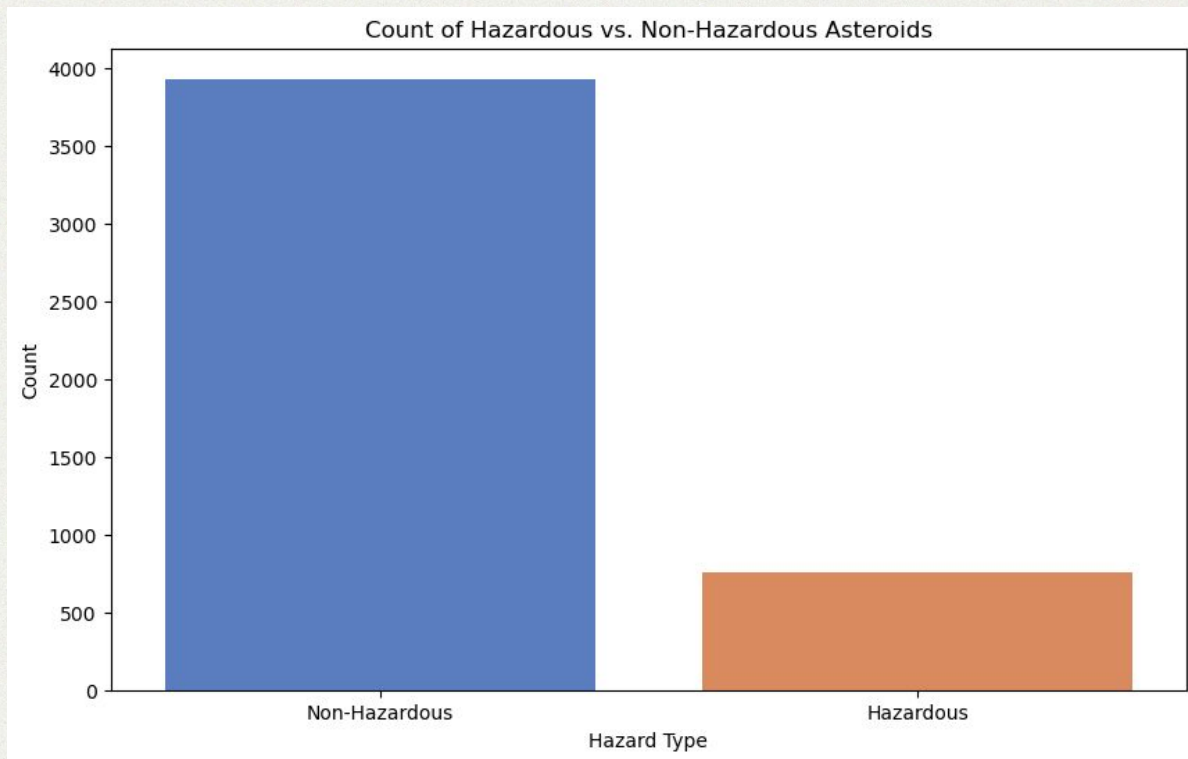


Partnerships and Funding



Public Awareness

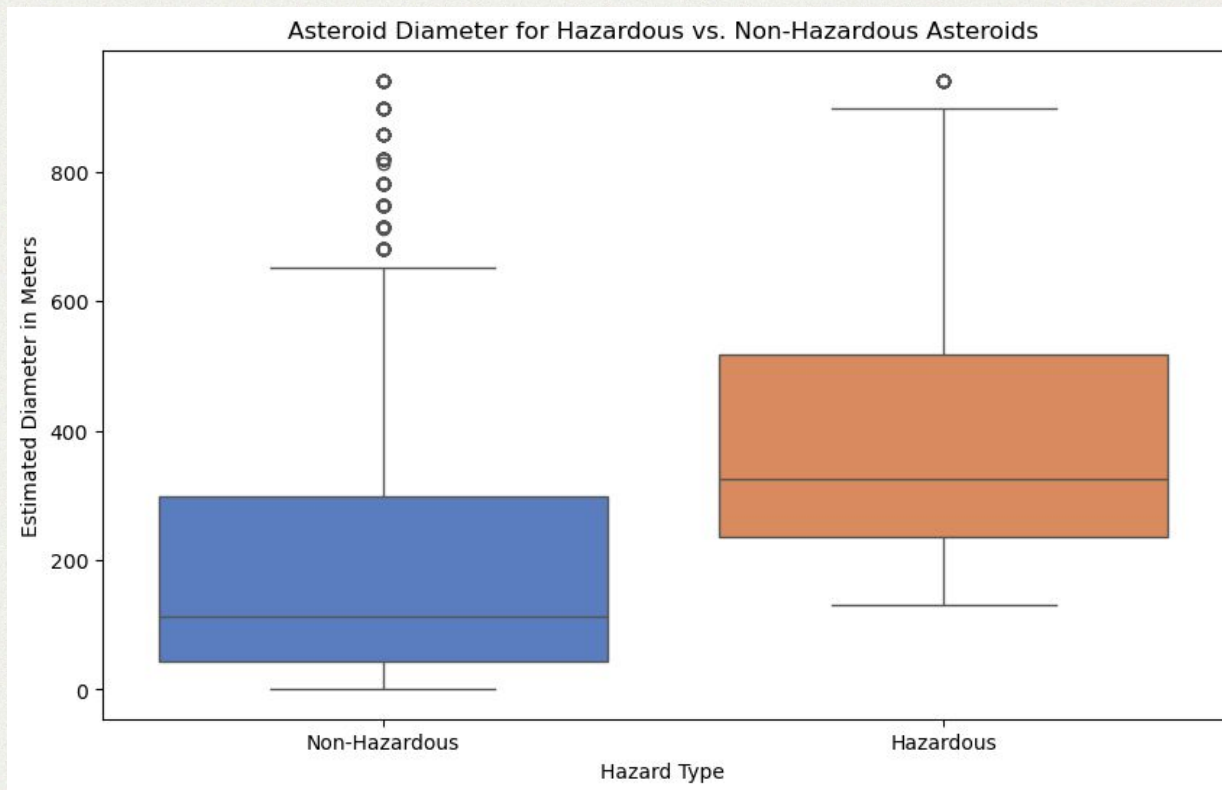
Data & Methods



Note

Majority class: Non-Hazardous Data
Minority class: Hazardous Data

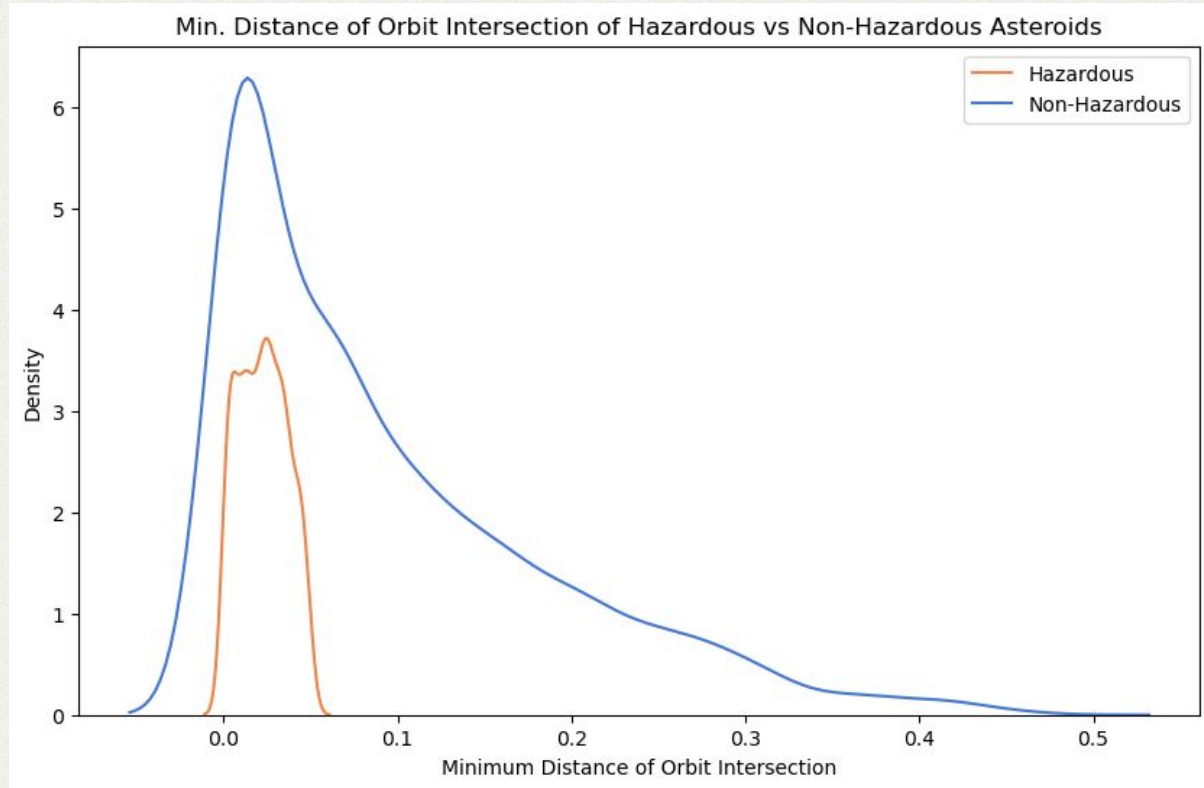
Results



Insights

Hazardous asteroids, on average, are larger than non-hazardous asteroids.

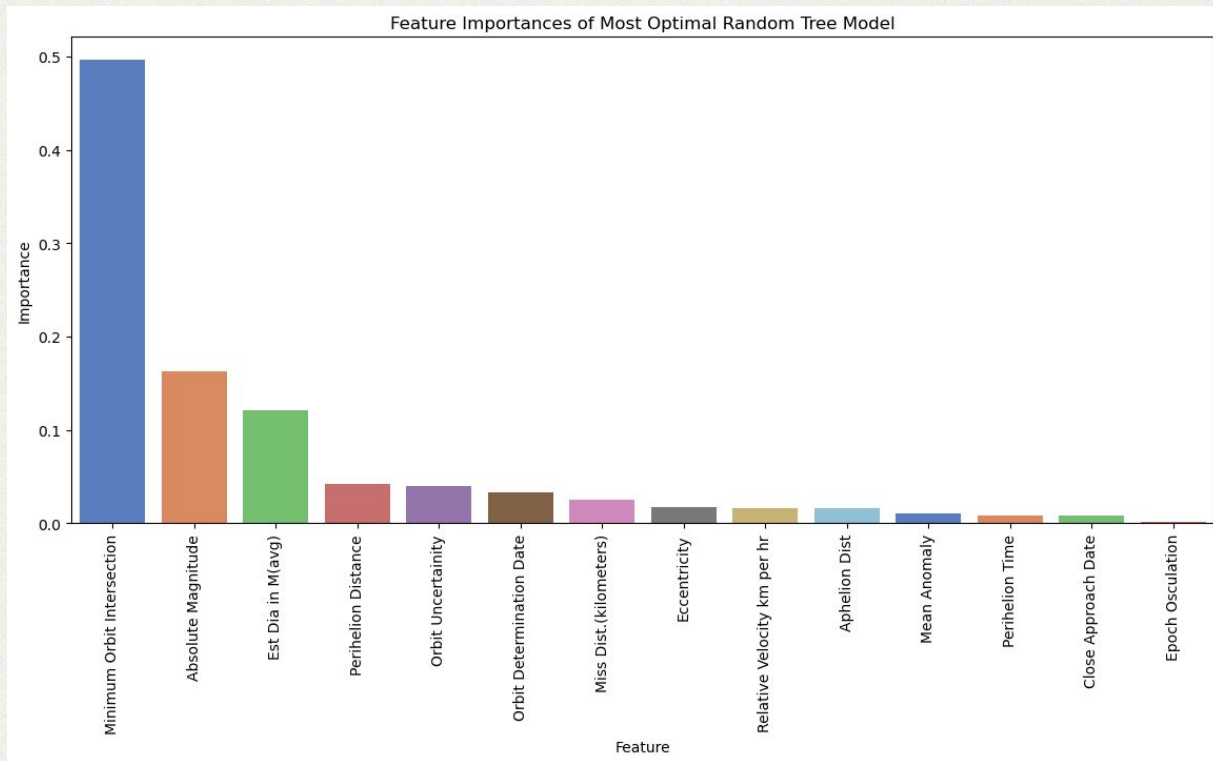
Results



Insights

Hazardous asteroids tend to come closer to Earth's orbit than non-hazardous asteroids.

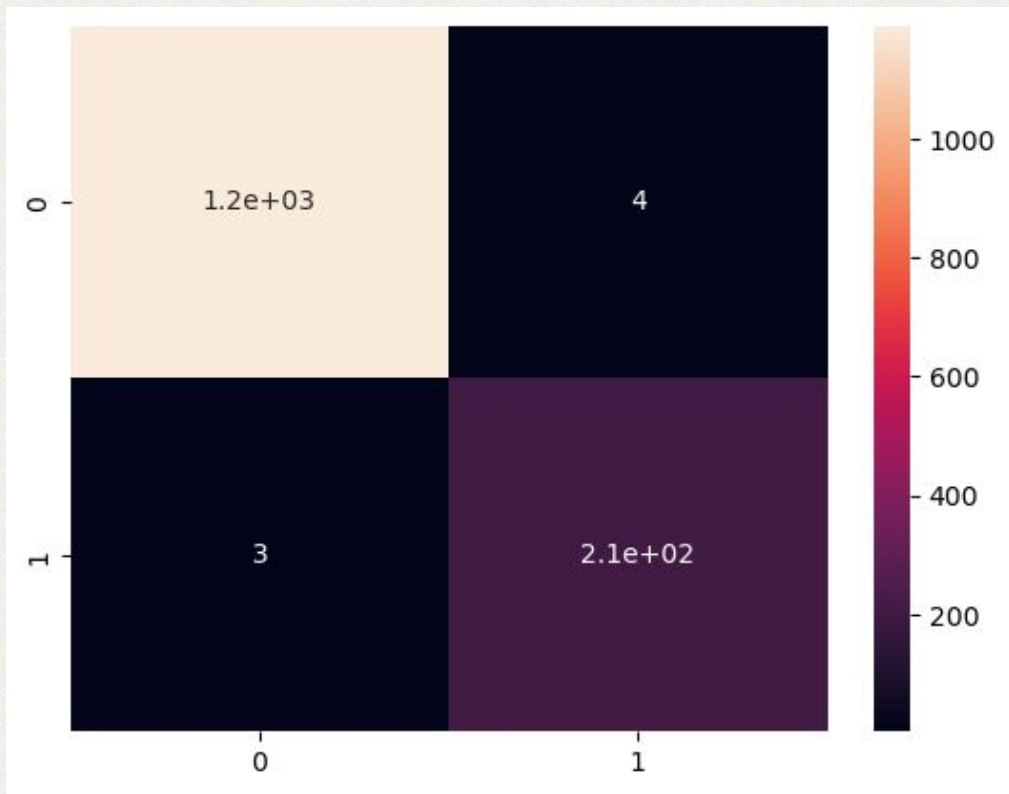
Results



Insights

Orbit intersection distance is the most important feature to classify hazard type of an asteroid.

Winning Model



**Random Tree
Classifier**

**Accuracy Rate:
99.5%**

Conclusions

Winning Model:

Random Tree Classifier

Accuracy Rate:

99.5%

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Next Steps



Further Research




Fundraising



Awareness Campaigns

Anbita Siregar

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Thank you!