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

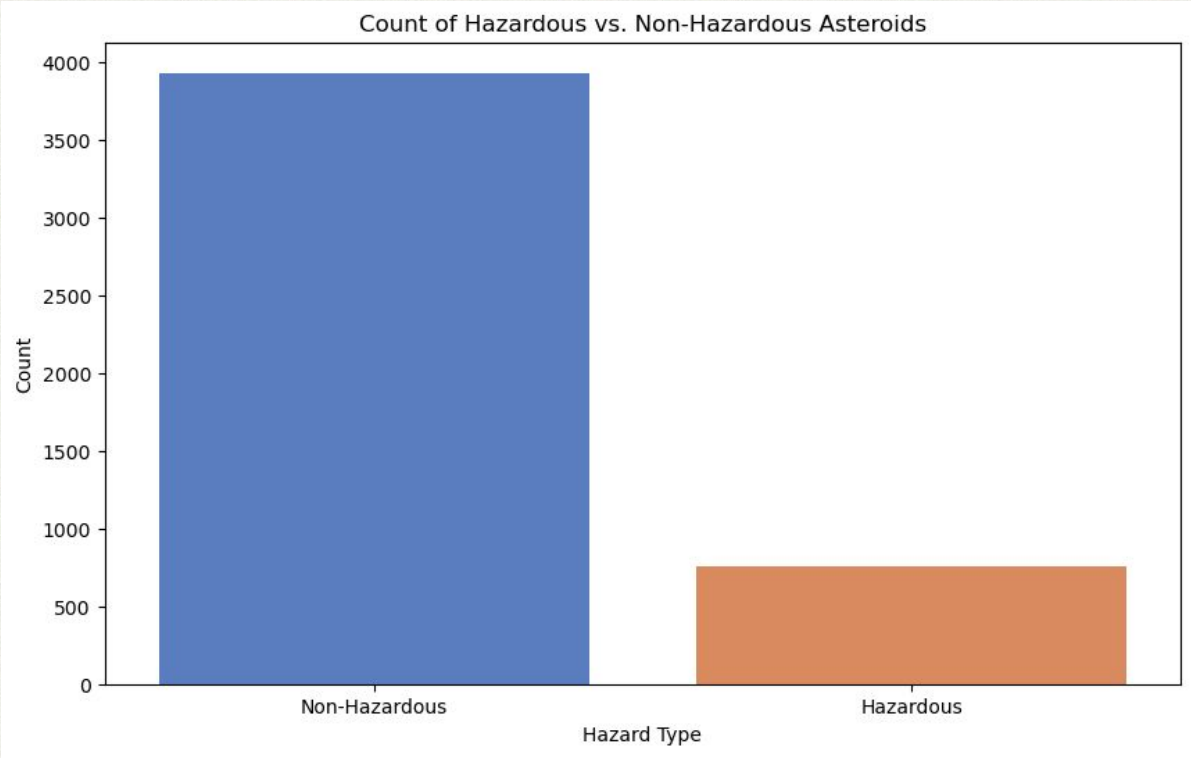
Business Problem

Resources Allocation

Partnerships and Funding

Public Awareness

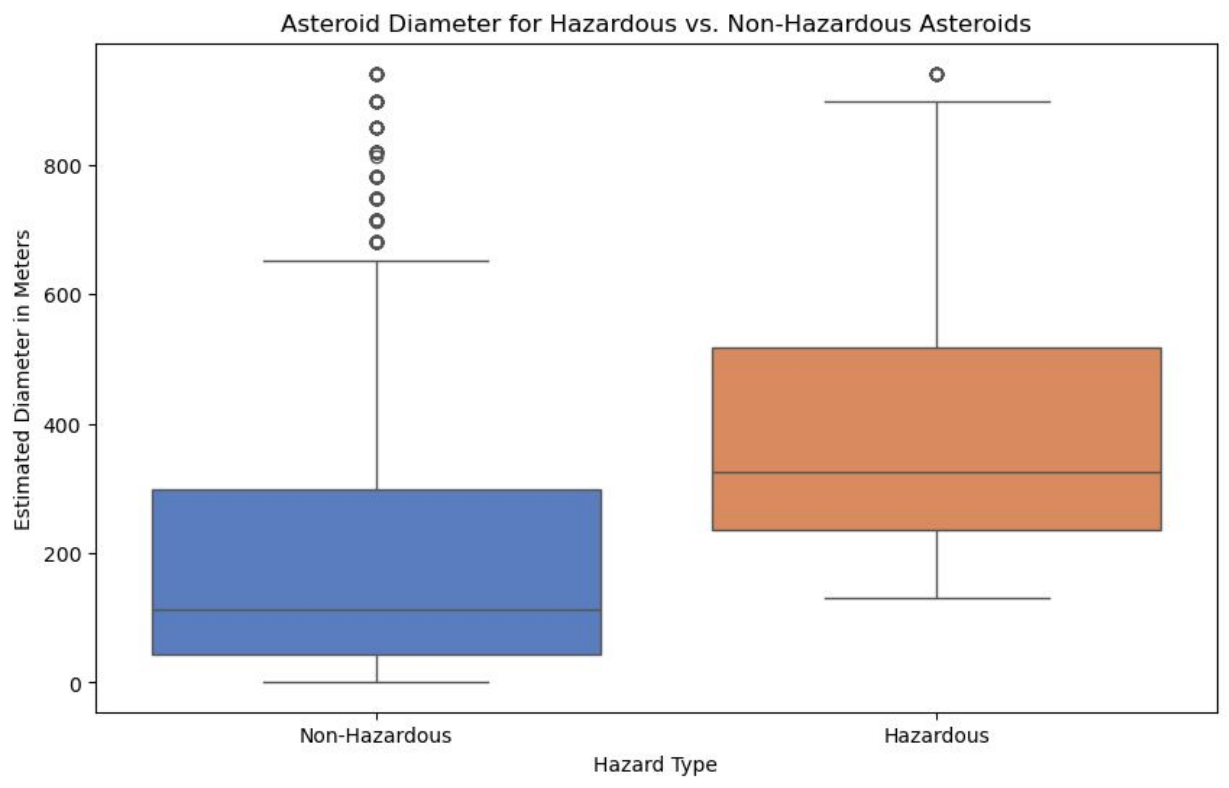
Data & Methods



Note

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

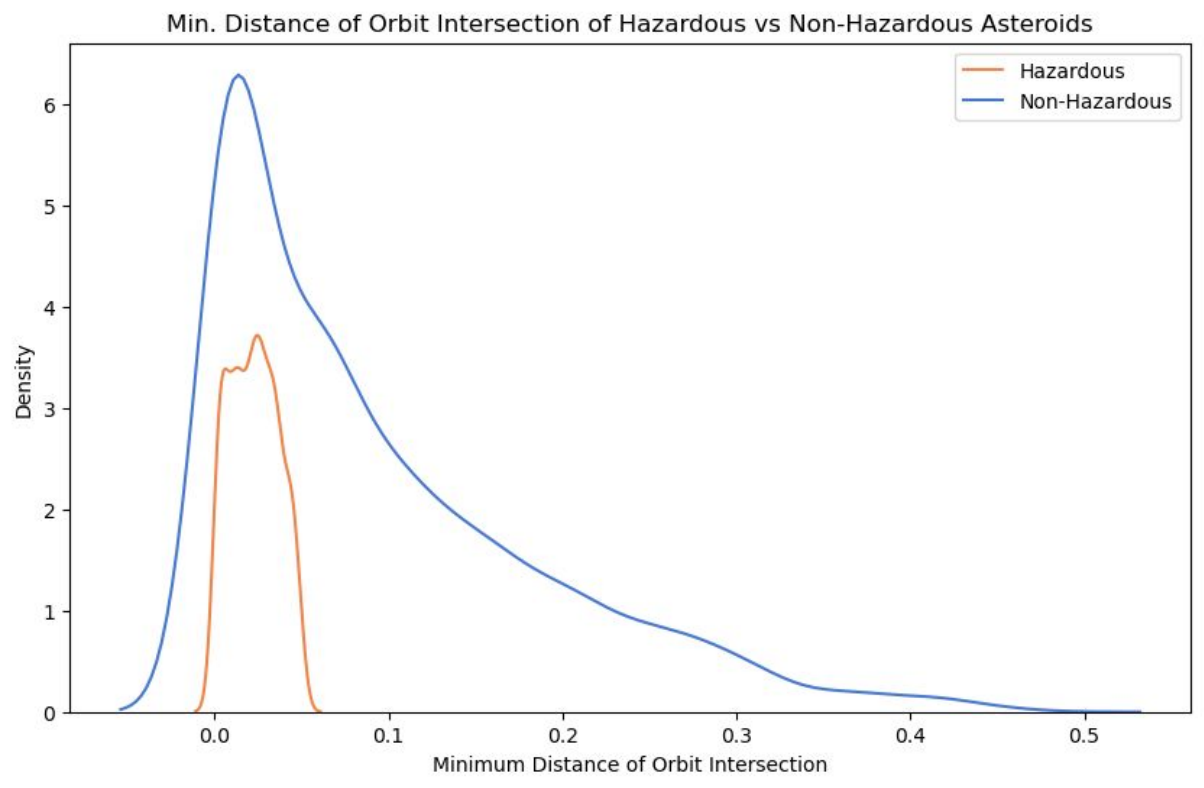
Results



Insights

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

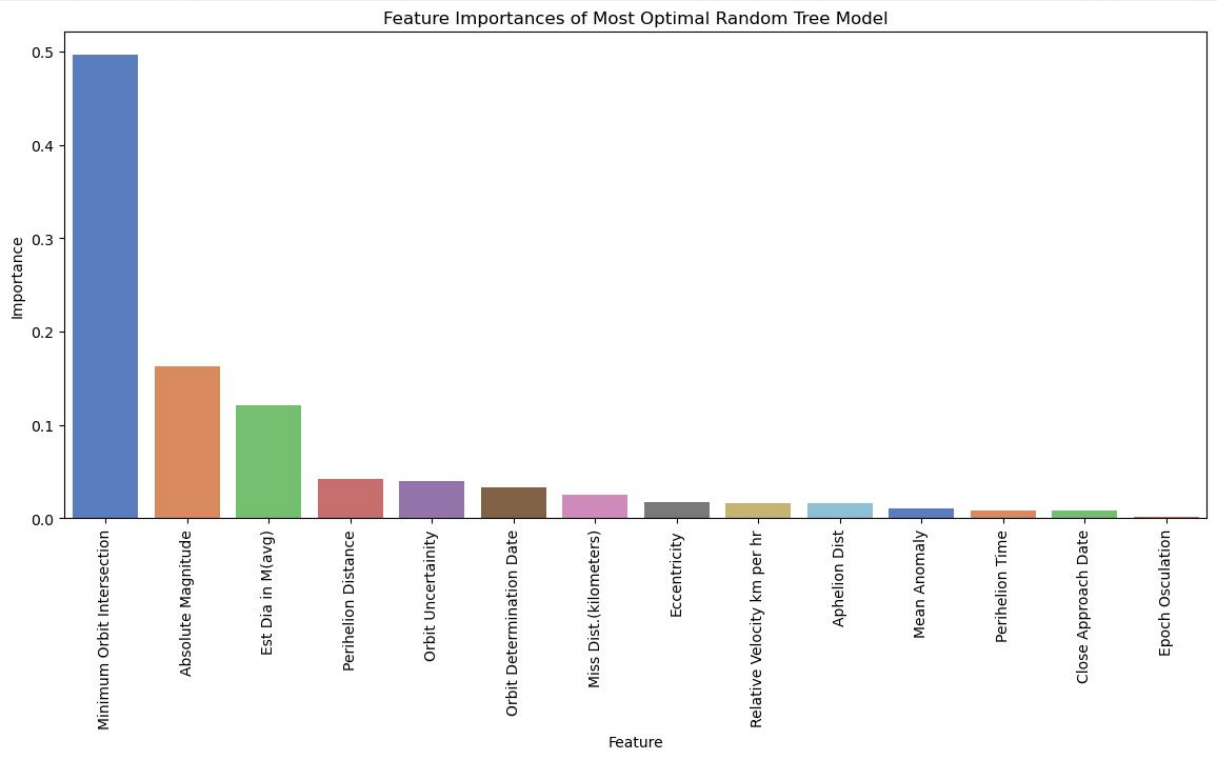
Results



Insights

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

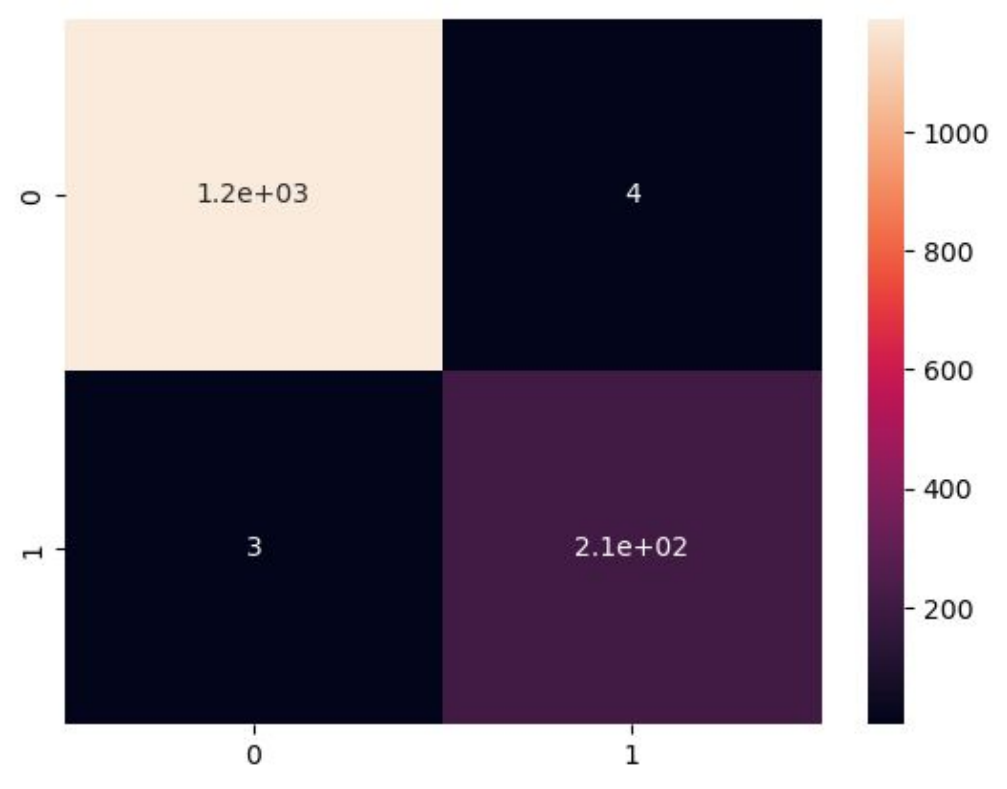
Results



Insights

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

Winning Model



Random Forest Classifier

Accuracy Rate:
99.5%

Conclusions

Winning Model:
Random Forest Classifier

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Next Steps

Further Research

Fundraising

Awareness Campaigns

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Thank you!