

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**



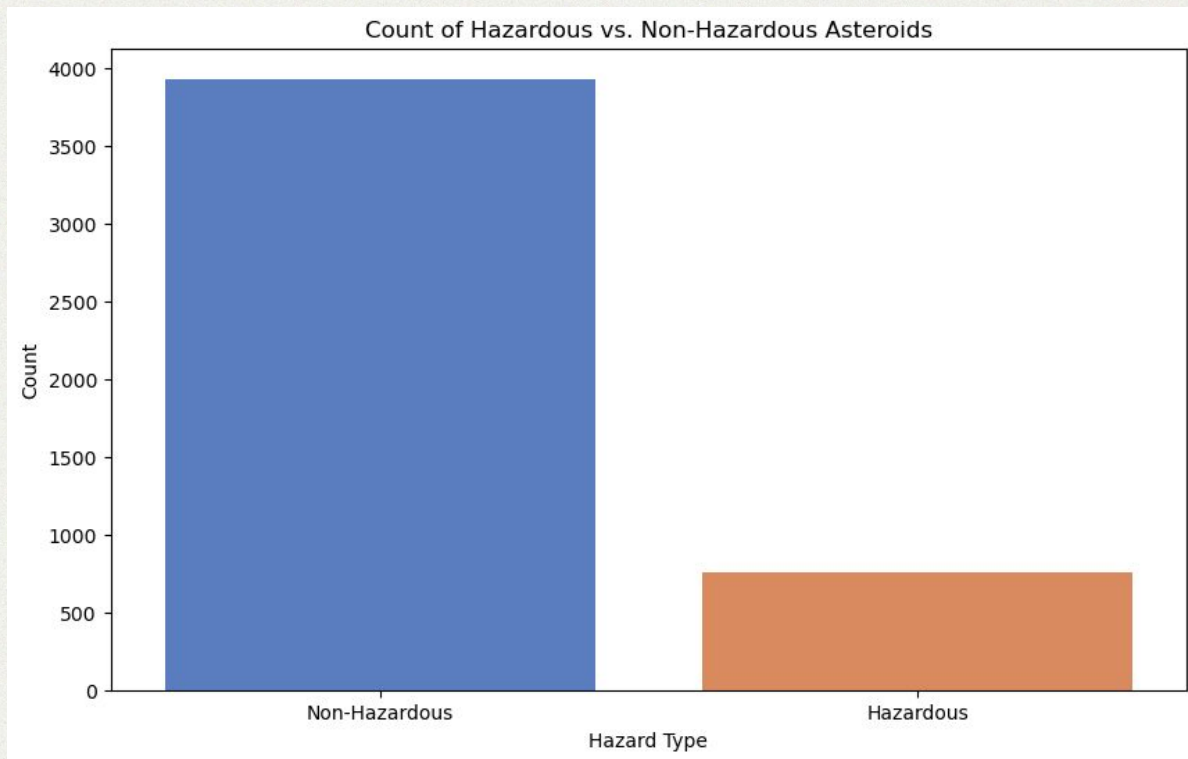
**Partnerships and Funding**



**Public Awareness**



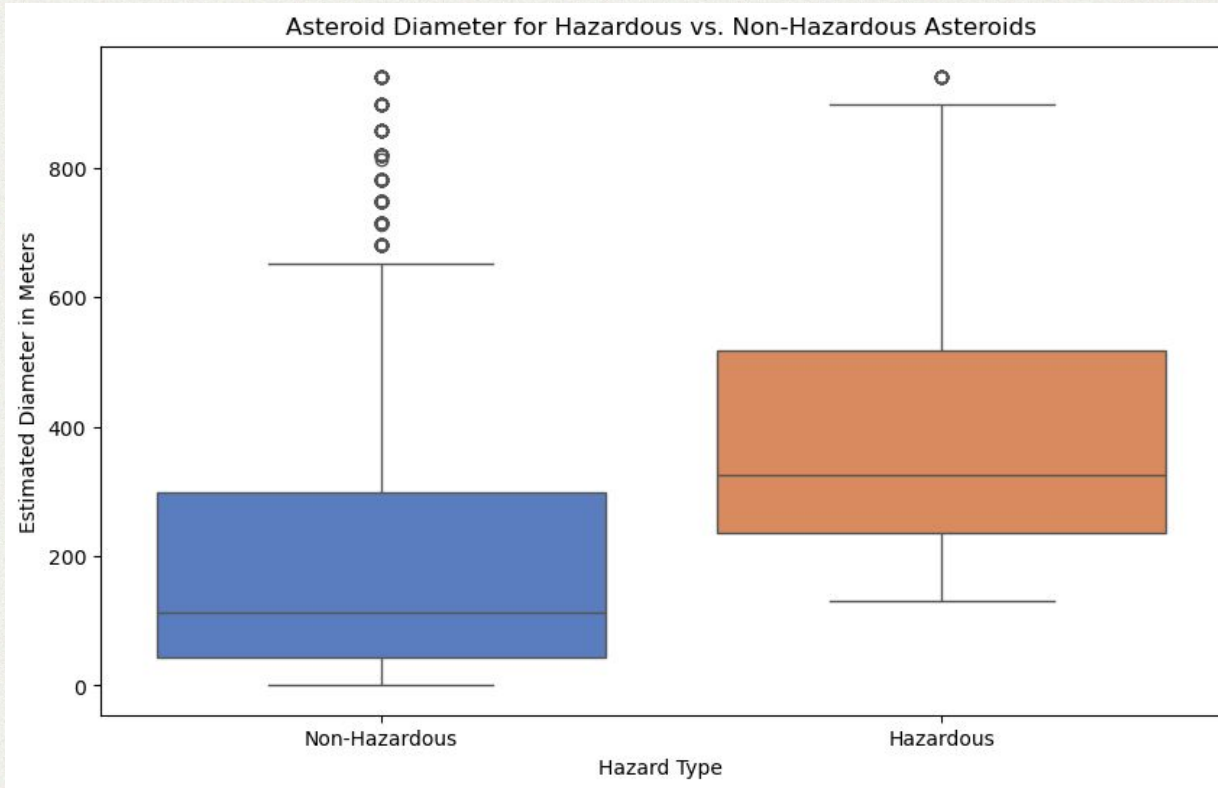
# Data & Methods



## Note

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

# Results

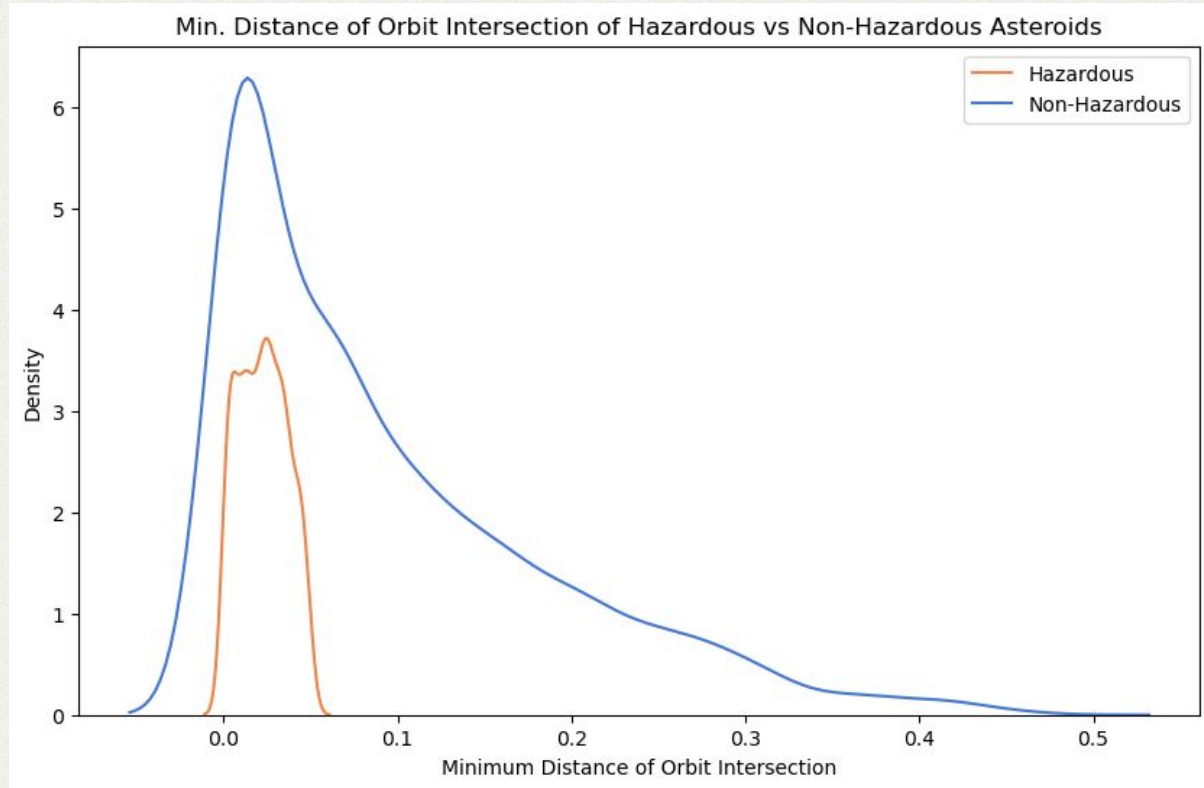


## Insights

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



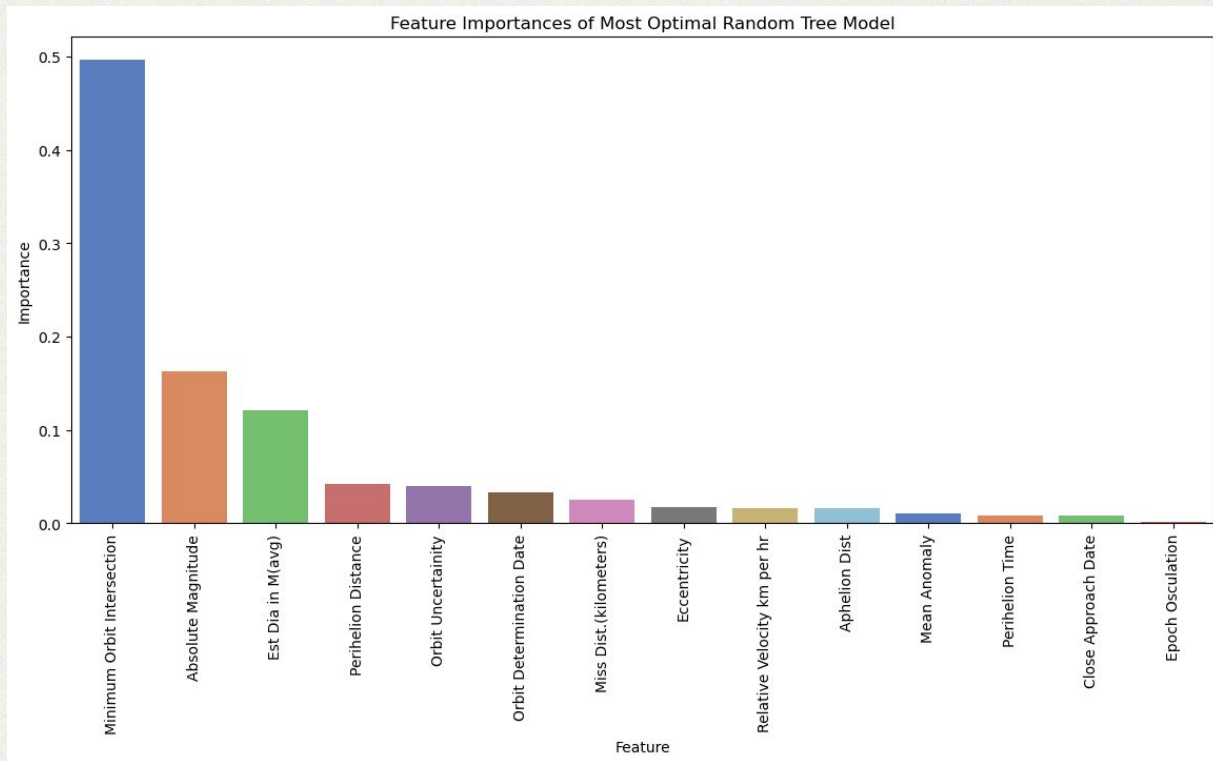
# Results



## 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.



# Conclusions

Winning Model:

**Random Tree Classifier**

Accuracy Rate:

**99.5%**

## Recommendation #1

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# Next Steps



**Further Research**




**Fundraising**



**Awareness Campaigns**



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Thank you!