





# Predicting Airplane Crash Severity

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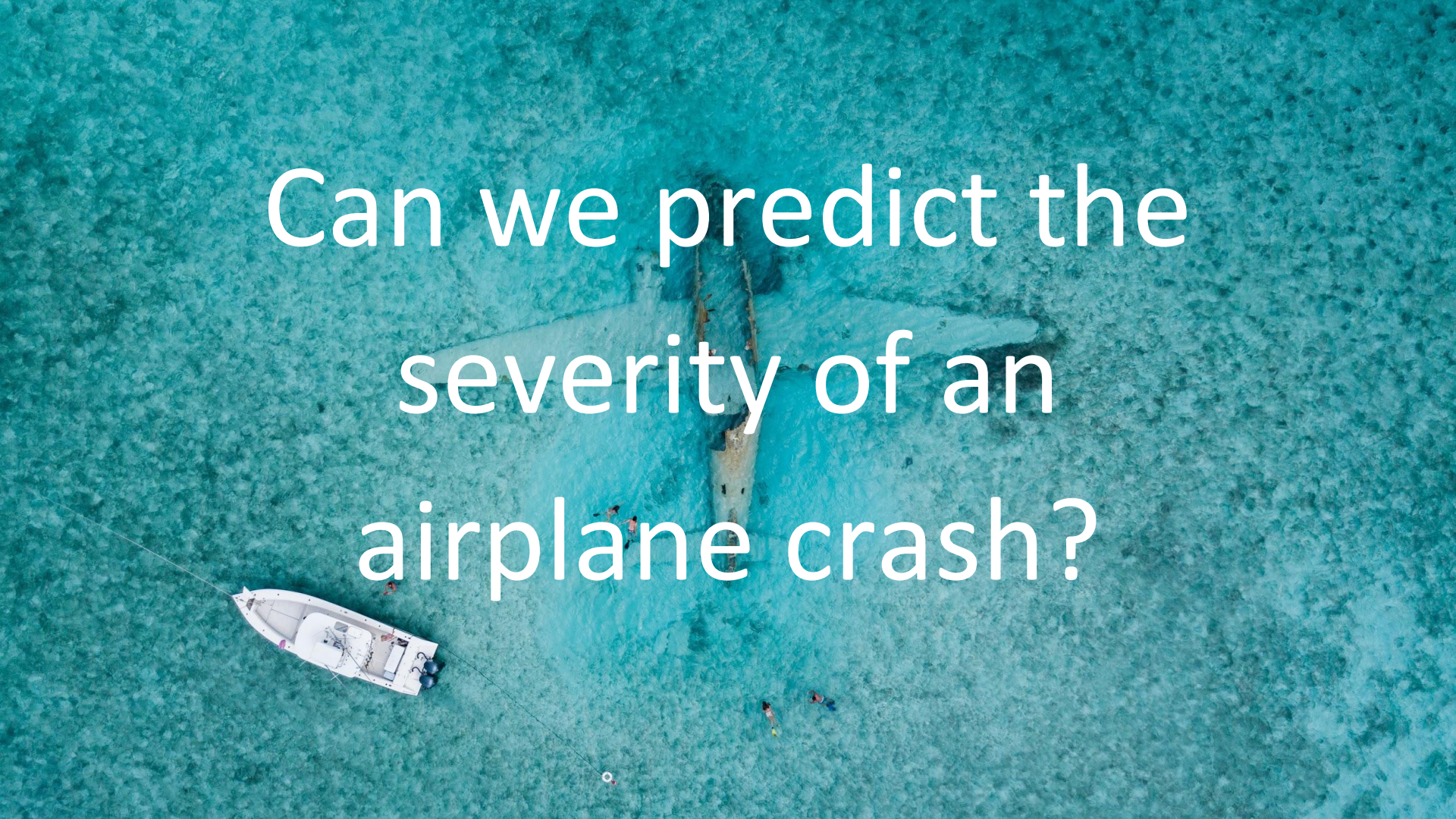


# Context

- We approached this challenge as if we were hired by the [Aviation Safety Network](#) (ASN) in conjunction with the [Flight Safety Foundation](#) to investigate which factors contributed to the increase in flight-related fatalities during 2018.
- Despite 2018 being one of the safest years on record for commercial aviation, there was a 50% increase in incidents from 2017 resulting in more than a 1000% increase in fatalities.
- With the information provided, we will be able to advise the ASN on how to potentially minimize the severity of a given airline crash.

# Data Source

- The data came from a competition hosted by [hackerearth.com](https://hackerearth.com)
- The dataset included an airplane crash severity metric along with several other measurements for each flight accident

An aerial photograph showing a large commercial airplane that has crashed into clear, turquoise water. The fuselage and wings are visible, partially submerged. A white recovery boat is positioned in the lower-left corner, connected to the wreckage by a thin cable. Several divers are visible in the water near the wreckage, indicating an ongoing investigation or recovery operation.

Can we predict the  
severity of an  
airplane crash?



# Model Results

Our best model predicted the severity of an airplane crash with 93% accuracy



# Important Features

The top features for predicting the severity of an airplane crash were, in order of descending importance:

1. Safety Score
2. Number of days Since Inspection
3. Pilot Control Score
4. Adverse Weather Score
5. Accident Type
6. Turbulence
7. Cabin Temperature
8. Max Elevation
9. Total Safety Complaints
10. Number of Violations



# Conclusion

- Airlines should implement a Random Forest Model to predict which flights might be at risk of an accident
- The Aviation Safety Network and the Flight Safety Foundation should focus on monitoring the top five predictors
- To further improve flight safety, we need to determine what score in each feature category is most highly correlated with a more deadly flight and work to implement policies that prevent scores from reaching those numbers



A photograph of two pilots in a cockpit, viewed from behind. They are wearing white short-sleeved shirts and large black headphones. The cockpit is filled with various instruments, dials, and control panels. The word "questions?" is overlaid in a large, white, sans-serif font across the center of the image. The lighting is warm, suggesting a sunset or sunrise outside the cockpit windows.

questions?