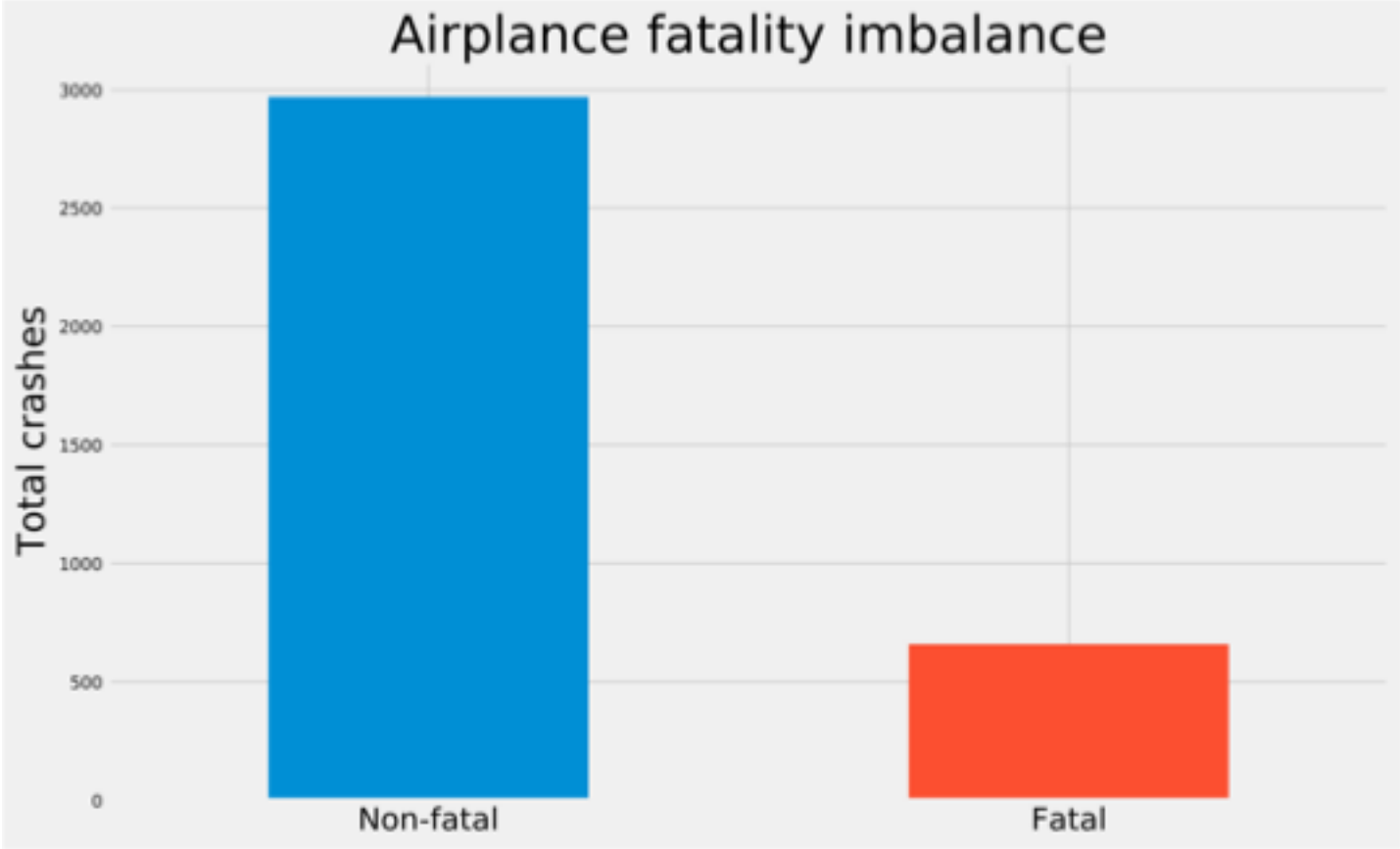
PLANE AND SIMPLE

WE DO THE HARD WORK SO YOU DON'T CRASH AND BURN

NATIONAL TRANSPORTATION SAFETY BOARD

ACCIDENTS ARE UNAVOIDABLE

- 77,703 recorded aviation accidents since 1962
- 81% of crashes are non-fatal



WHAT IS OUR GOAL?

- Classify whether or not a plane crash is going to be fatal

- Maximize total accuracy while focusing on minimizing false negative predictions
  - Eradicate false sense of security

MODEL SELECTION – ORIGINAL MVP MODELS (TRAINING DATA)

Model	Accuracy	Recall	F-beta Score
Logistic Regression	0.84	0.22	0.26
KNN	0.82	0.19	0.22
SVC	0.83	0.26	0.29
Decision Tree	0.77	0.34	0.32
Random Forest	0.81	0.45	0.28
Gradient Boosted Tree	0.83	0.55	0.24

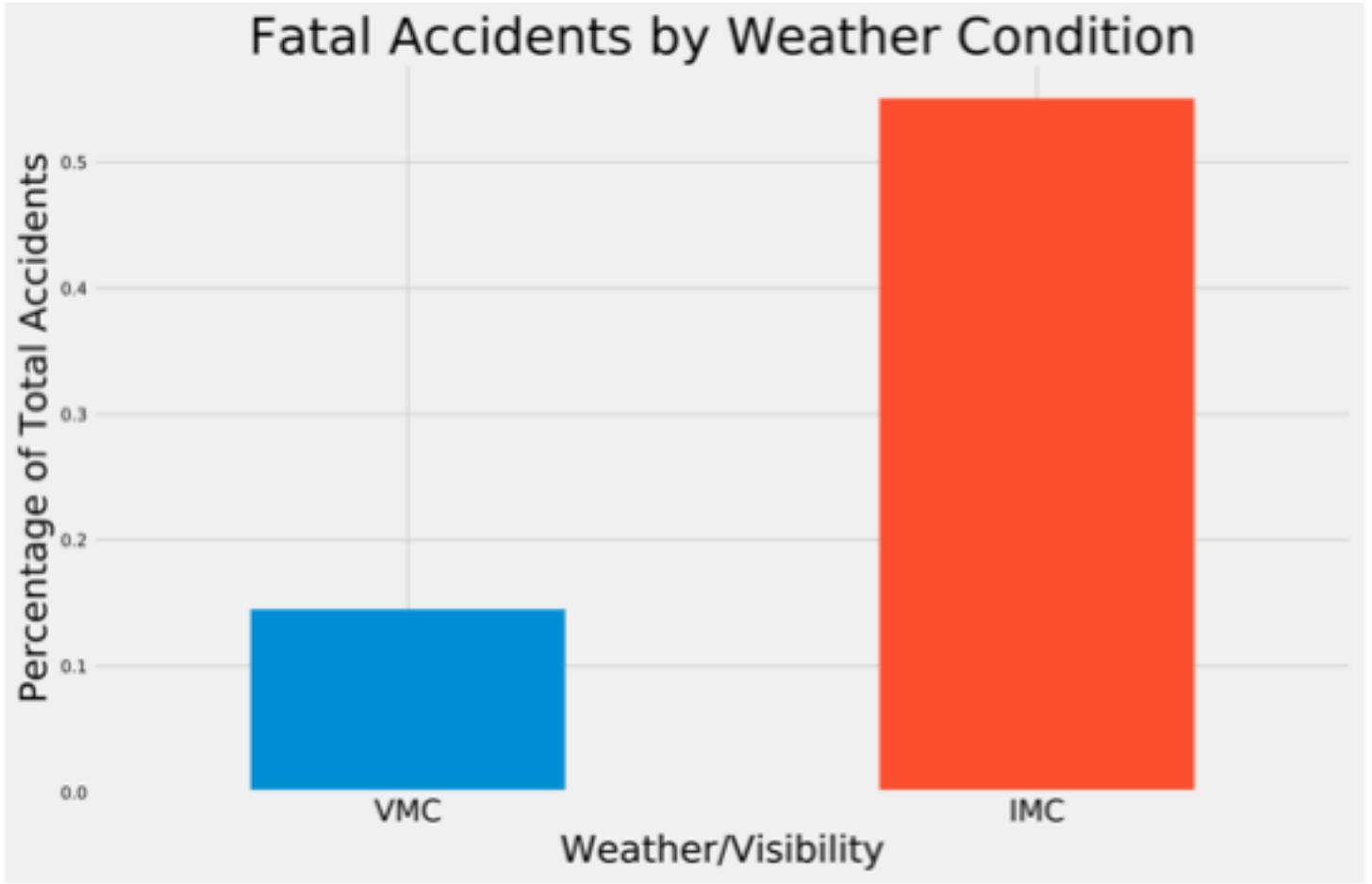
MODEL SELECTION – OPTIMAL TUNED MODELS (TRAINING DATA)

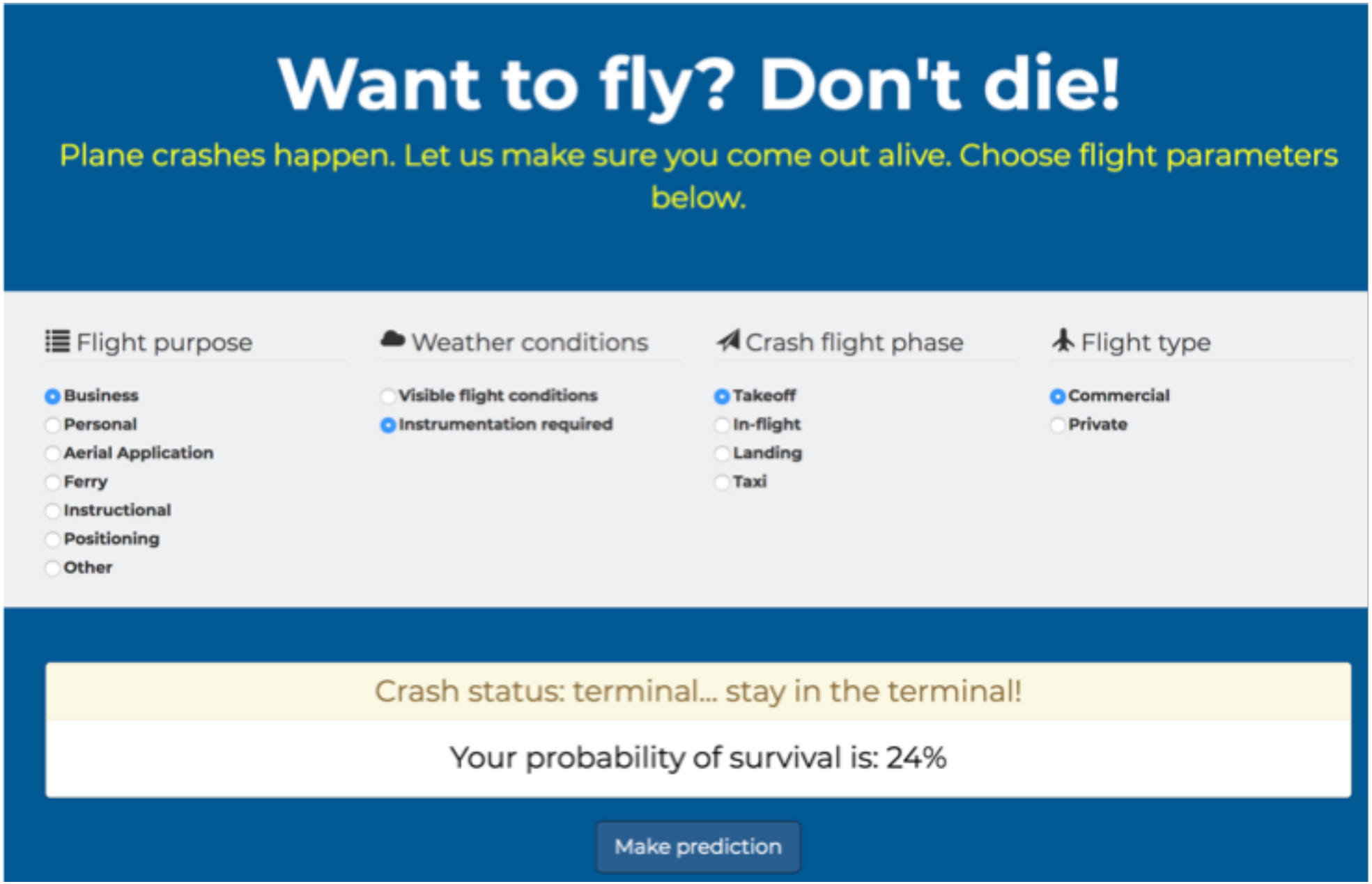
Model	Accuracy	Recall	F-beta Score
Logistic Regression	0.72	0.70	0.6677
SVC	0.73	0.75	0.7013
Decision Tree	0.73	0.75	0.6979
Random Forest	0.73	0.75	0.6997

FINAL MODEL (TEST DATA)

Model	Accuracy	Recall	F-beta Score
Support Vector Machine	0.73	0.72	0.6039

SPOILER ALERT!!!




Want to fly? Don't die!
Plane crashes happen. Let us make sure you come out alive. Choose flight parameters below.
Flight purpose
Business
Personal
Aerial Application
Ferry
Instructional
Positioning
Other
Weather conditions
Visible flight conditions
Instrumentation required
Crash flight phase
Takeoff
In-flight
Landing
Taxi
Flight type
Commercial
Private
Crash status: terminal... stay in the terminal!
Your probability of survival is: 24%
Make prediction

FUTURE STEPS / MODEL IMPROVEMENTS

1. Gather data on all flights, regardless of crash
2. Incorporate geographical data/more robust weather data