

● How severe can an airplane accident be?

Attempted by: 1536 / Accuracy: 93% / Maximum Score: 30 / ★★☆☆☆ 7 Votes

Tag(s): Logistic regression, Machine Learning



PROBLEM

EDITORIAL

MY SUBMISSIONS

Flying has been the go-to mode of travel for years now; it is time-saving, affordable, and extremely convenient. According to the FAA, 2,781,971 passengers fly every day in the US, as in June 2019. Passengers reckon that flying is very safe, considering strict inspections are conducted and security measures are taken to avoid and/or mitigate any mishappenings. However, there remain a few chances of unfortunate incidents.

Imagine you have been hired by a leading airline. You are required to build Machine Learning models to anticipate and classify the severity of any airplane accident based on past incidents. With this, all airlines, even the entire aviation industry, can predict the severity of airplane accidents caused due to various factors and, correspondingly, have a plan of action to minimize the risk associated with them.

Data:

The dataset comprises 3 files:

- **Train.csv:** [10000 x 12 excluding the headers] contains Training data
- **Test.csv:** [2500 x 11 excluding the headers] contains Test data
- **sample_submission.csv:** contains a sample of the format in which the Results.csv needs to be

Data Description:

Columns	Description
Accident_ID	unique id assigned to each row
Accident_Type_Code	the type of accident (factor, not numeric)
Cabin_Temperature	the last recorded temperature before the incident, measured in degrees fahrenheit
Turbulence_In_gforces	the recorded/estimated turbulence experienced during the accident
Control_Metric	an estimation of how much control the pilot had during the incident given the factors at play
Total_Safety_Complaints	number of complaints from mechanics prior to the accident
Days_Since_Inspection	how long the plane went without inspection before the incident
Safety_Score	a measure of how safe the plane was deemed to be
Violations	number of violations that the aircraft received during inspections
Severity	a description (4 level factor) on the severity of the crash [Target]

Submission Format

You need to write your predictions on test data into a .csv file [Refer sample_submission.csv for format].

Upload your predictions.csv under 'Upload File' section.

You can upload your source files in a .zip format under 'Upload Source File' section.

Evaluation Criteria

$$score = 100 * (f1_score(actual_values, predicted_values, average = 'weighted'))$$

Time Limit:	5.0 sec(s) for each input file.
--------------------	---------------------------------

Memory Limit:	256 MB
----------------------	--------

Source Limit:	1024 KB
----------------------	---------

Marking Scheme:	Marks are awarded when all the testcases pass.
------------------------	--

Allowed Languages:	Bash, C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Swift, Swift-4.1, TypeScript, Visual Basic
---------------------------	---