Predictive Maintenance Using Automotive Engine Health Dataset

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Dataset Description

The dataset was made up of real-world observations on truck engine health monitored through various sensors.

Six independent variables and One dependent variable.

Dataset Processing

- Finding the right data.
- Preprocessing
  - No Missing Values
  - Tremendous number of outliers
  - Transformation was needed
- Exploratory Data Analysis
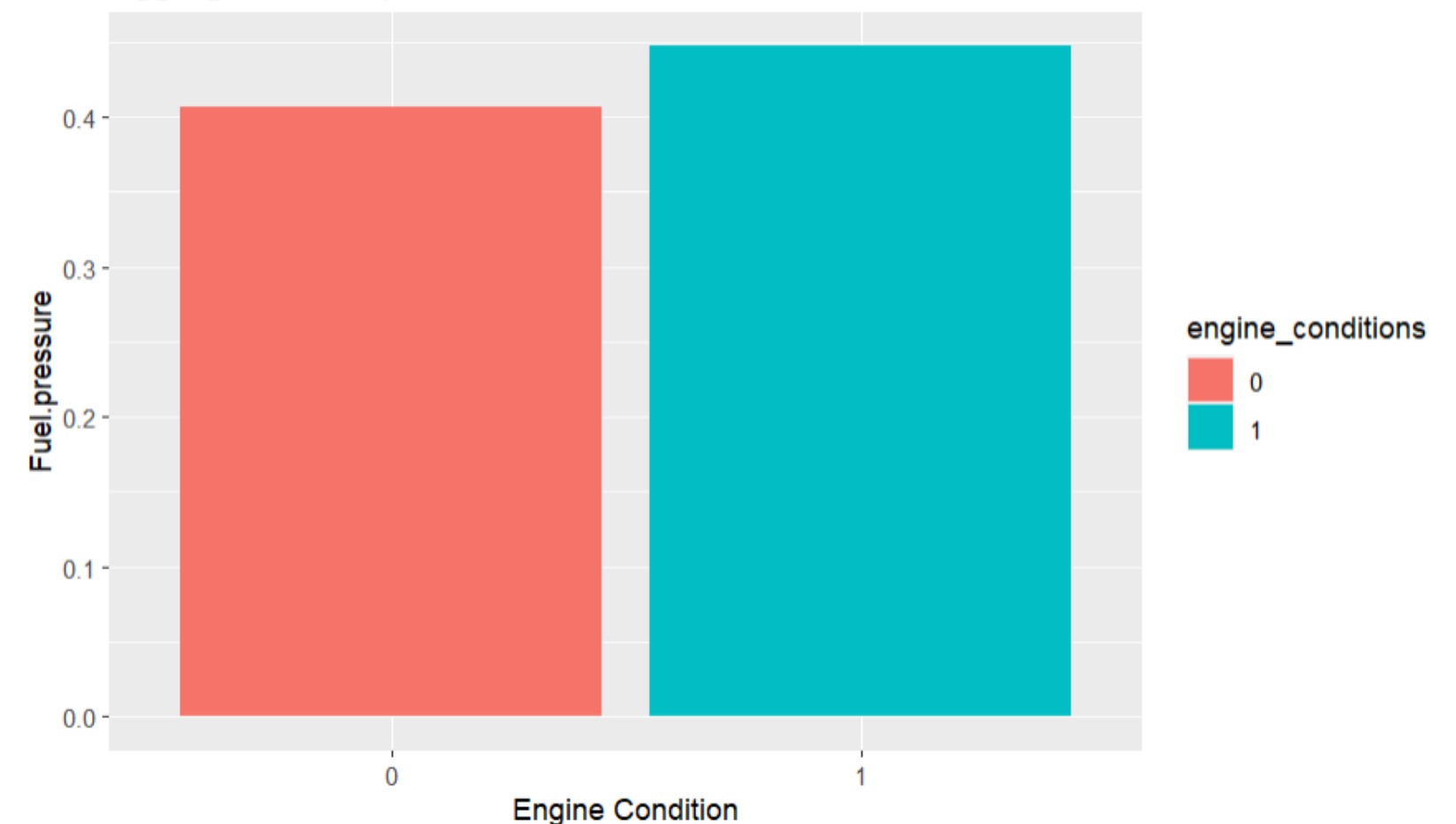
Models & Algorithms

Logistic Regression

KNN

Decision Tree

Weighted KNN

Random Forest

Naive Bayes

Results

Model	Accuracy	Sensitivity	Specificity	Precision	Negative Precision
Logistic Regression	0.638	0.574	0.702	0.658	0.622
KNN	0.638	0.611	0.629	0.622	0.618
Naive Bayes	0.625	0.662	0.587	0.616	0.635
Decision Tree	0.630	0.570	0.690	0.648	0.616
Random Forest	0.638	0.603	0.653	0.634	0.621

Enter the details about your Engine

Engine rpm

700

Engine lubricant oil pressure

6

Engine's fuel pressure

11

Engine's coolant pressure

6

Engine's lubricant oil temperature

90

Engine's coolant temperature

120

Predict

References

Dataset Source: https://www.kaggle.com/datasets/parvmodi/automotive-vehicles-engine-health-dataset/discussion/451284

White paper on dataset: https://www.linkedin.com/feed/update/urn:li:activity:7123803314101637120/

Helpful Medium Article: https://medium.com/almabetter/data-preprocessing-techniques-6ea145684812

Thank You