

Data Science Lab 3

Team nr: 2	Student 1: Åmund Grimstad	IST nr: 1116675
	Student 2: Arthur de Arruda Chau	IST nr: 1116090
	Student 3: Benjamin Raymond Kuhn	IST nr: 1115778
	Student 4: João Rafael Freitas Lourenço	IST nr: 425699

CLASSIFICATION - DATA PREPARATION

1 Traffic Accident Data

Variables Encoding

Missing Value Imputation

There are no missing values in the Traffic Accident Dataset.

Outliers Treatment

Figure 1: Outliers imputation results with different approaches for Traffic Accident Data

Scaling

Figure 2: Scaling results with different approaches for Traffic Accident Data

Balancing

Figure 3: Balancing results with different approaches for Traffic Accident Data

Feature Selection

Figure 4: Feature selection of redundant variables results with different parameters for Traffic Accident Data

Figure 5: Feature selection of relevant variables results with different parameters for Traffic Accident Data (variance study)

Feature Extraction (optional)

Figure 6: Principal components analysis and feature extraction results for Traffic Accident Data

Additional Feature Generation (if done)

Figure 7: Feature generation results for Traffic Accident Data

Best approach

Figure 8: Performance and confusion matrix for best approach for Traffic Accident Data

2 Flight Cancellation Data

Variables Encoding

Missing Value Imputation

Figure 9: Missing values imputation results with different approaches for Flight Cancellation Data

Outliers Treatment

Figure 10: Outliers imputation results with different approaches for Flight Cancellation Data

Scaling

Figure 11: Scaling results with different approaches for Flight Cancellation Data

Balancing

Figure 12: Balancing results with different approaches for Flight Cancellation Data

Feature Selection

Figure 13: Feature selection of redundant variables results with different parameters for Flight Cancellation Data

Figure 14: Feature selection of relevant variables results with different parameters for Flight Cancellation Data (variance study)

Feature Extraction (optional)

Figure 15: Principal components analysis and feature extraction results for Flight Cancellation Data

Additional Feature Generation (if done)

Figure 16: Feature generation results for Flight Cancellation Data

Best approach

Figure 17: Performance and confusion matrix for best approach for Flight Cancellation Data