Data Science Lab 4

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CLASSIFICATION – MODELS' EVALUATION

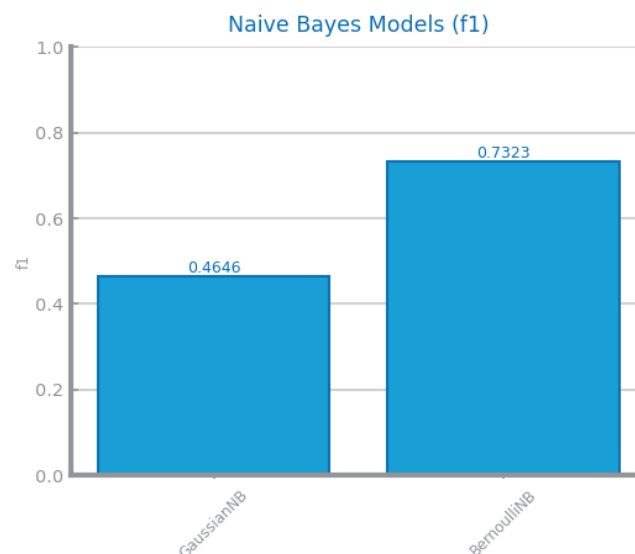## Traffic Accident Data

Naïve Bayes

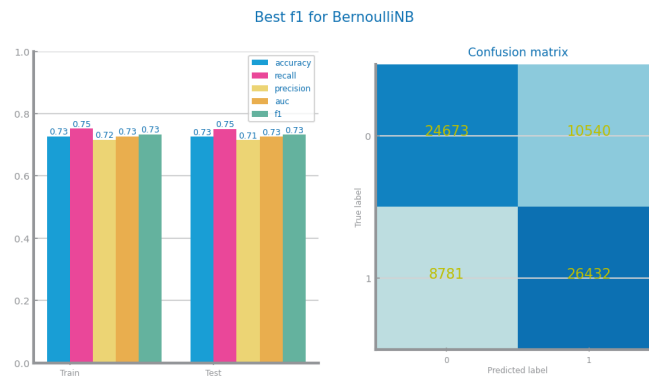Figure 1: Naïve Bayes alternative comparison for Traffic Accident Data

Figure 2: Naïve Bayes best model results for Traffic Accident Data
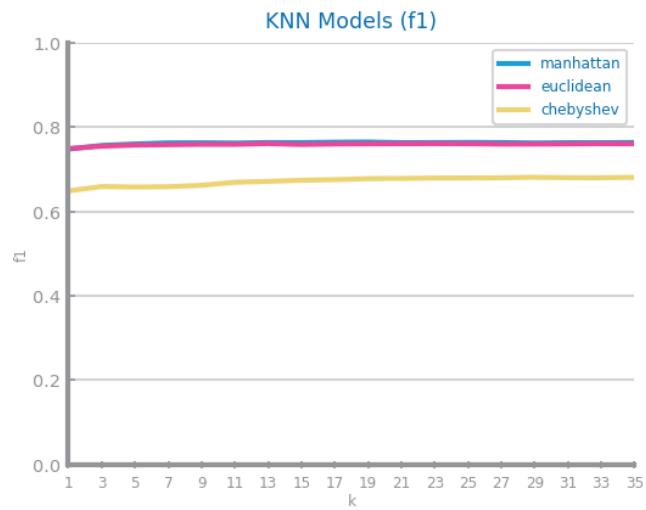
KNN

Figure 3: KNN different parameterisations comparison for Traffic Accident Data
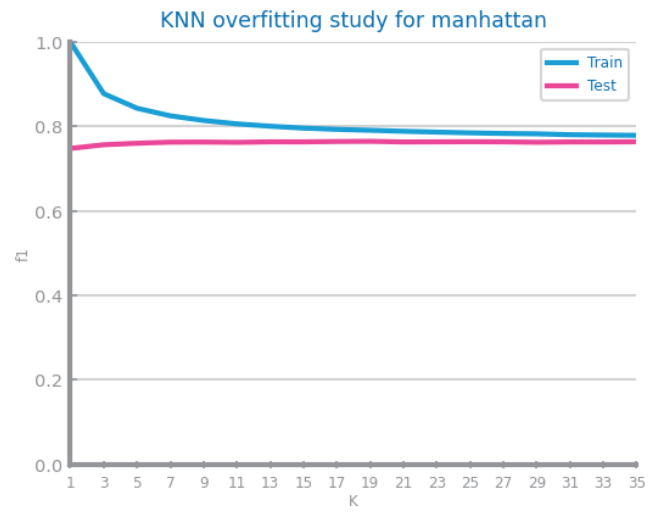
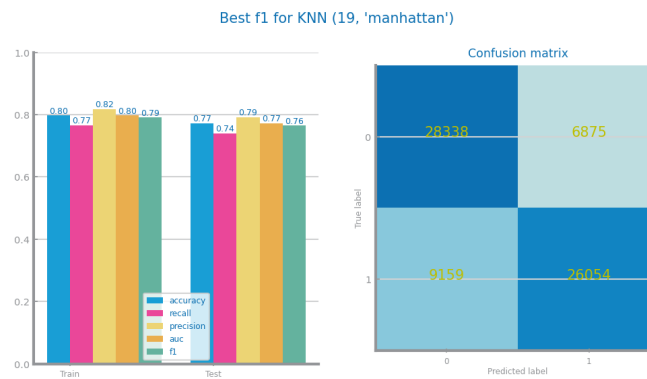Figure 4: KNN overfitting analysis for Traffic Accident Data

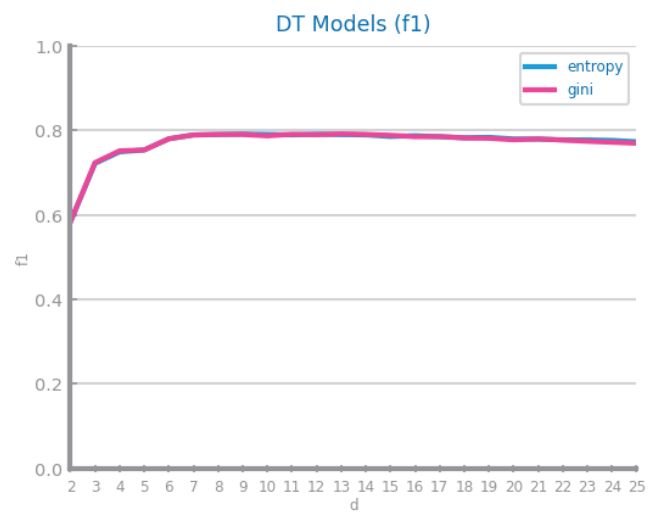Figure 5: KNN best model results for Traffic Accident Data

Decision Trees

Figure 6: Decision Trees different parameterisations comparison for Traffic Accident Data
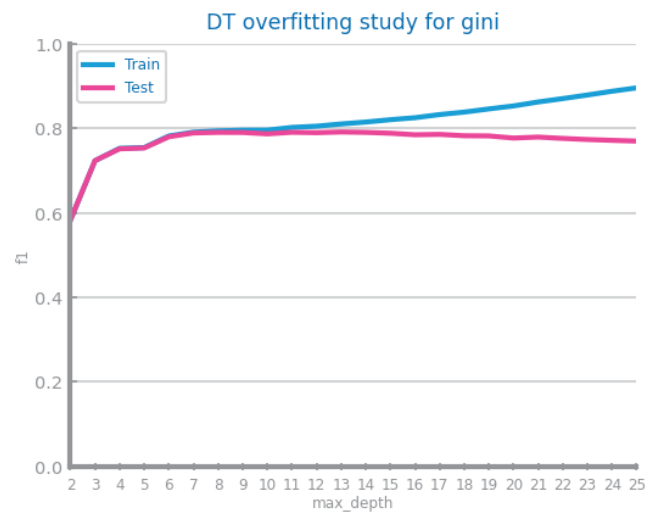

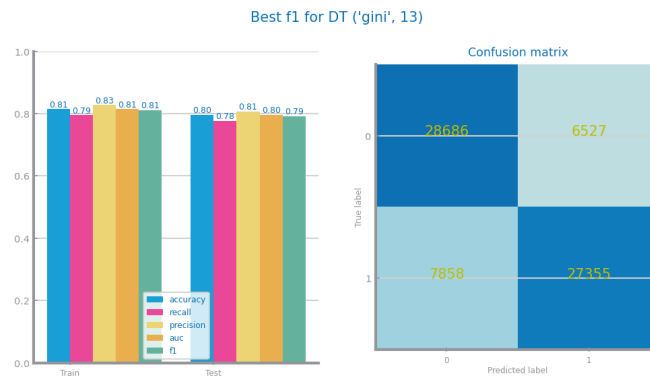Figure 7: Decision Trees overfitting analysis for Traffic Accident Data

Figure 8: Decision trees best model results for Traffic Accident Data
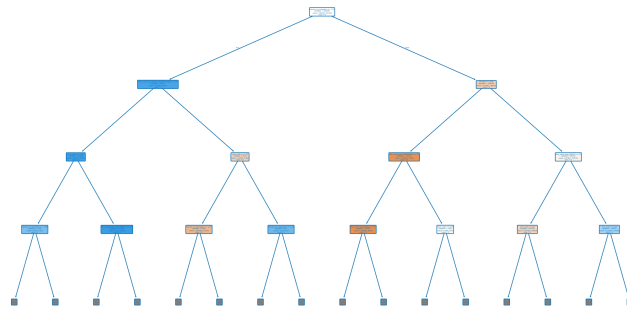

Figure 9: Best tree for Traffic Accident Data

Figure 10: Decision trees variables importance for Traffic Accident Data
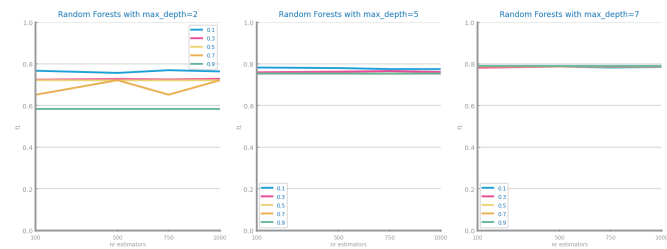
Random Forests

Figure 11: Random Forests different parameterisations comparison for Traffic Accident Data

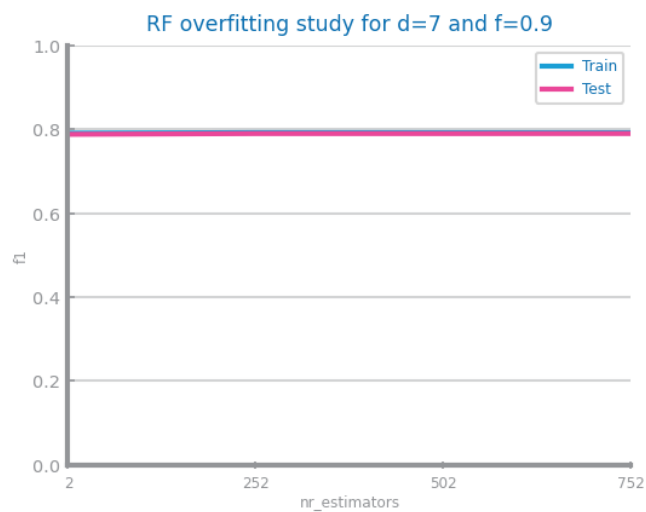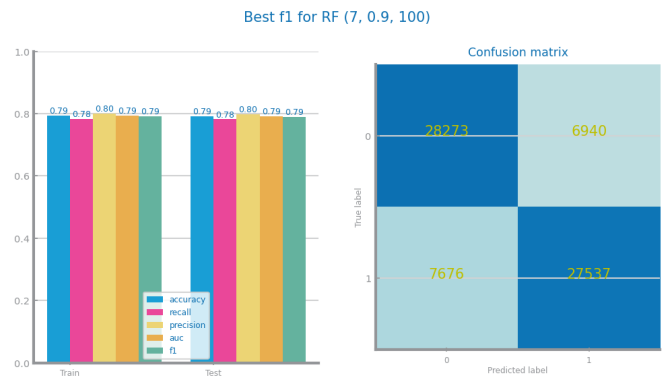Figure 12: Random Forests overfitting analysis for Traffic Accident Data

Figure 13: Random Forests best model results for Traffic Accident Data

Figure 14: Random Forests variables importance for Traffic Accident Data

Gradient Boosting

Figure 15: Gradient boosting different parameterisations comparison for Traffic Accident Data

Figure 16: Gradient boosting overfitting analysis for Traffic Accident Data

Figure 17: Gradient boosting best model results for Traffic Accident Data

Figure 18: Gradient boosting variables importance for Traffic Accident Data

Logistical Regression
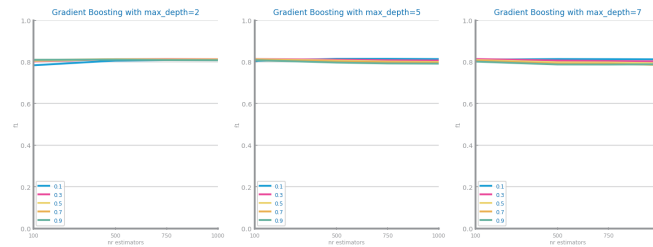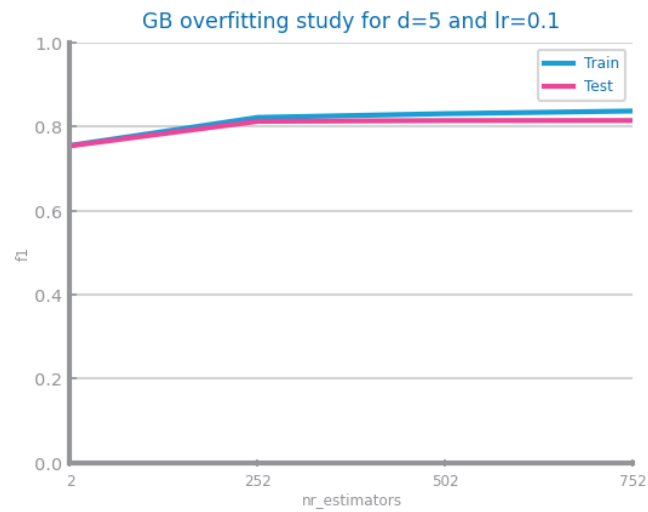

Figure 19: Logistical regression different parameterisations comparison for Traffic Accident Data

Figure 20: Logistical regression overfitting analysis for Traffic Accident Data

Figure 21: Logistical regression best model results for Traffic Accident Data

Multi-Layer Perceptrons

Figure 22: MLP different parameterisations comparison for Traffic Accident Data

Figure 23: MLP overfitting analysis for Traffic Accident Data

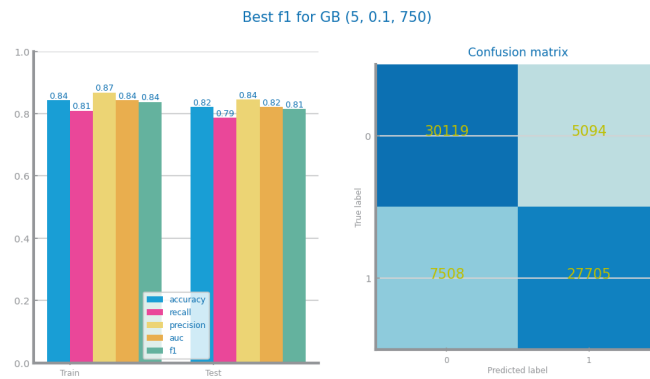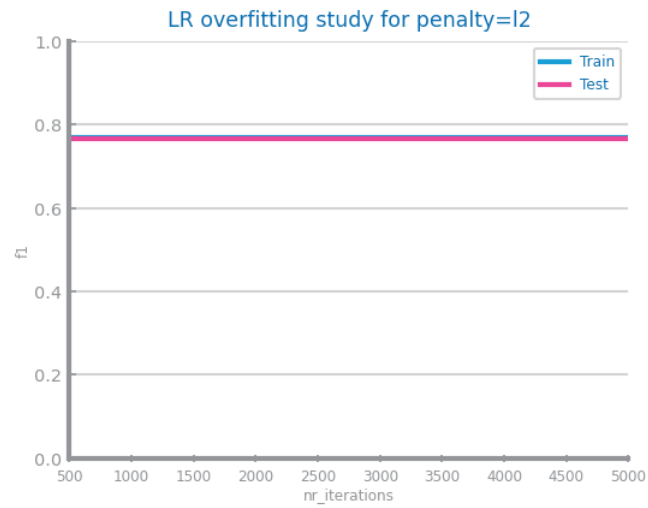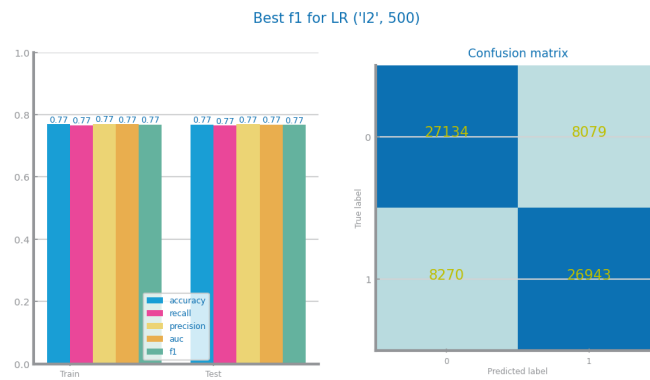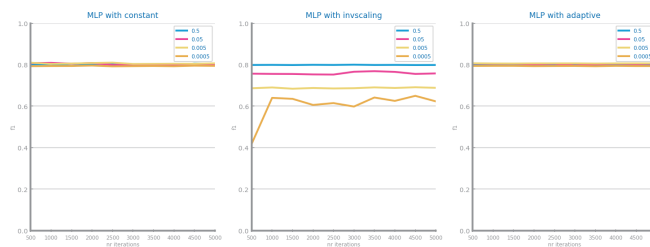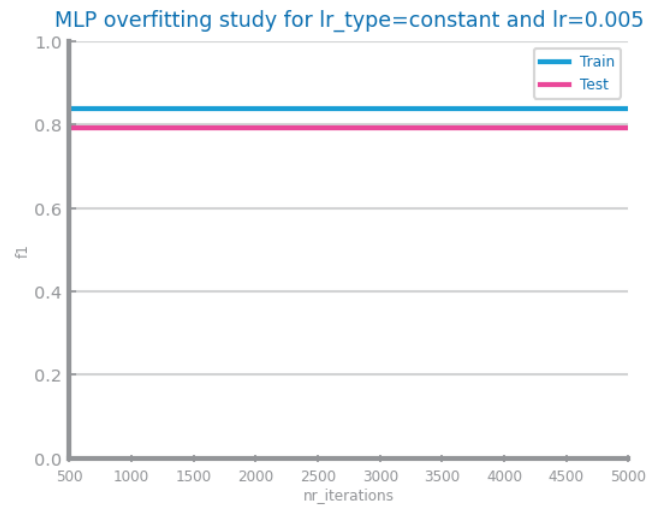Figure 24: Loss curve analysis for Traffic Accident Data

Figure 25: MLP best model results for Traffic Accident Data

Flight Cancellation Data

Naïve Bayes

Figure 26: Naïve Bayes alternative comparison for Flight Cancellation Data

Figure 27: Naïve Bayes best model results for Flight Cancellation Data

KNN

Figure 28: KNN different parameterisations comparison for Flight Cancellation Data

Figure 29: KNN overfitting analysis for Flight Cancellation Data

Figure 30: KNN best model results for Flight Cancellation Data

Decision Trees

Figure 31: Decision Trees different parameterisations comparison for Flight Cancellation Data

Figure 32: Decision Trees overfitting analysis for Flight Cancellation Data

Figure 33: Decision trees best model results for Flight Cancellation Data

Figure 34: Best tree for Flight Cancellation Data

Figure 35: Decision trees variables importance for Flight Cancellation Data

Random Forests

Figure 36: Random Forests different parameterisations comparison for Flight Cancellation Data

Figure 37: Random Forests overfitting analysis for Flight Cancellation Data

Figure 38: Random Forests best model results for Flight Cancellation Data

Figure 39: Random Forests variables importance for Flight Cancellation Data

Gradient Boosting

Figure 40: Gradient boosting different parameterisations comparison for Flight Cancellation Data

Figure 41: Gradient boosting overfitting analysis for Flight Cancellation Data

Figure 42: Gradient boosting best model results for Flight Cancellation Data

Figure 43: Gradient boosting variables importance for Flight Cancellation Data

Logistical Regression

Figure 44: Logistical regression different parameterisations comparison for Flight Cancellation Data

Figure 45: Logistical regression overfitting analysis for Flight Cancellation Data

Figure 46: Logistical regression best model results for Flight Cancellation Data

Multi-Layer Perceptrons

Figure 47: MLP different parameterisations comparison for Flight Cancellation Data

Figure 48: MLP overfitting analysis for Flight Cancellation Data

Figure 49: Loss curve analysis for Flight Cancellation Data

Figure 50: MLP best model results for Flight Cancellation Data