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# Preprocessing

import libraries and set seed

Load data (3.3)

Remove columns/nas, constants (3.3)

Exploratory data analysis (3.3)

correlation matrix

data visualizations

# Logistic regression model

describe and show parameter tuning (3.4)

discuss results (3.4)

describe and justify model validation (3.4)

describe and show results of threshold selection (3.5)

describe and justify threshold selection (3.4)

Results: selected threshold (3.6)

describe and discuss model performance (3.5)

describe and justify metrics used for performance evaluation (3.4)

ROC + AUC (3.6)

Optimal model tuning parameters (3.6)

Accuracy, TPR, FPR, and precision calculated at chosen threshold (3.6)

# LDA model

describe and show parameter tuning (3.4)

discuss results (3.4)

describe and justify model validation (3.4)

describe and show results of threshold selection (3.5)

describe and justify threshold selection (3.4)

Results: selected threshold (3.6)

describe and discuss model performance (3.5)

describe and justify metrics used for performance evaluation (3.4)

ROC + AUC (3.6)

Optimal model tuning parameters (3.6)

Accuracy, TPR, FPR, and precision calculated at chosen threshold (3.6)

# QDA model

describe and show parameter tuning (3.4)

discuss results (3.4)

describe and justify model validation (3.4)

describe and show results of threshold selection (3.5)

describe and justify threshold selection (3.4)

Results: selected threshold (3.6)

describe and discuss model performance (3.5)

describe and justify metrics used for performance evaluation (3.4)

ROC + AUC (3.6)

Optimal model tuning parameters (3.6)

Accuracy, TPR, FPR, and precision calculated at chosen threshold (3.6)

# KNN model

describe and show parameter tuning (3.4)

discuss results (3.4)

describe and justify model validation (3.4)

describe and show results of threshold selection (3.5)

describe and justify threshold selection (3.4)

Results: selected threshold (3.6)

describe and discuss model performance (3.5)

describe and justify metrics used for performance evaluation (3.4)

ROC + AUC (3.6)

Optimal model tuning parameters (3.6)

Accuracy, TPR, FPR, and precision calculated at chosen threshold (3.6)

# Penalized logistic regression model

describe and show parameter tuning (3.4)

discuss results (3.4)

describe and justify model validation (3.4)

describe and show results of threshold selection (3.5)

describe and justify threshold selection (3.4)

Results: selected threshold (3.6)

describe and discuss model performance (3.5)

describe and justify metrics used for performance evaluation (3.4)

ROC + AUC (3.6)

Optimal model tuning parameters (3.6)

Accuracy, TPR, FPR, and precision calculated at chosen threshold (3.6)

# Conclusions

Conclusion 1: determination and justification of what algorithm works best (3.7)

Conclusion 2: (3.7)

decide what conclusion to draw (what interests us?)

writeup

Conclusion 3: (3.7)

decide what conclusion to draw (what interests us?)

writeup