

PROCENA KREDITNE SPOSOBNOSTI KANDIDATA NA OSNOVU VIŠE PARAMETARA



IN14/2021 SARA SAPUNDŽIJA
IIN16/2021 RANKA RADULOVIĆ



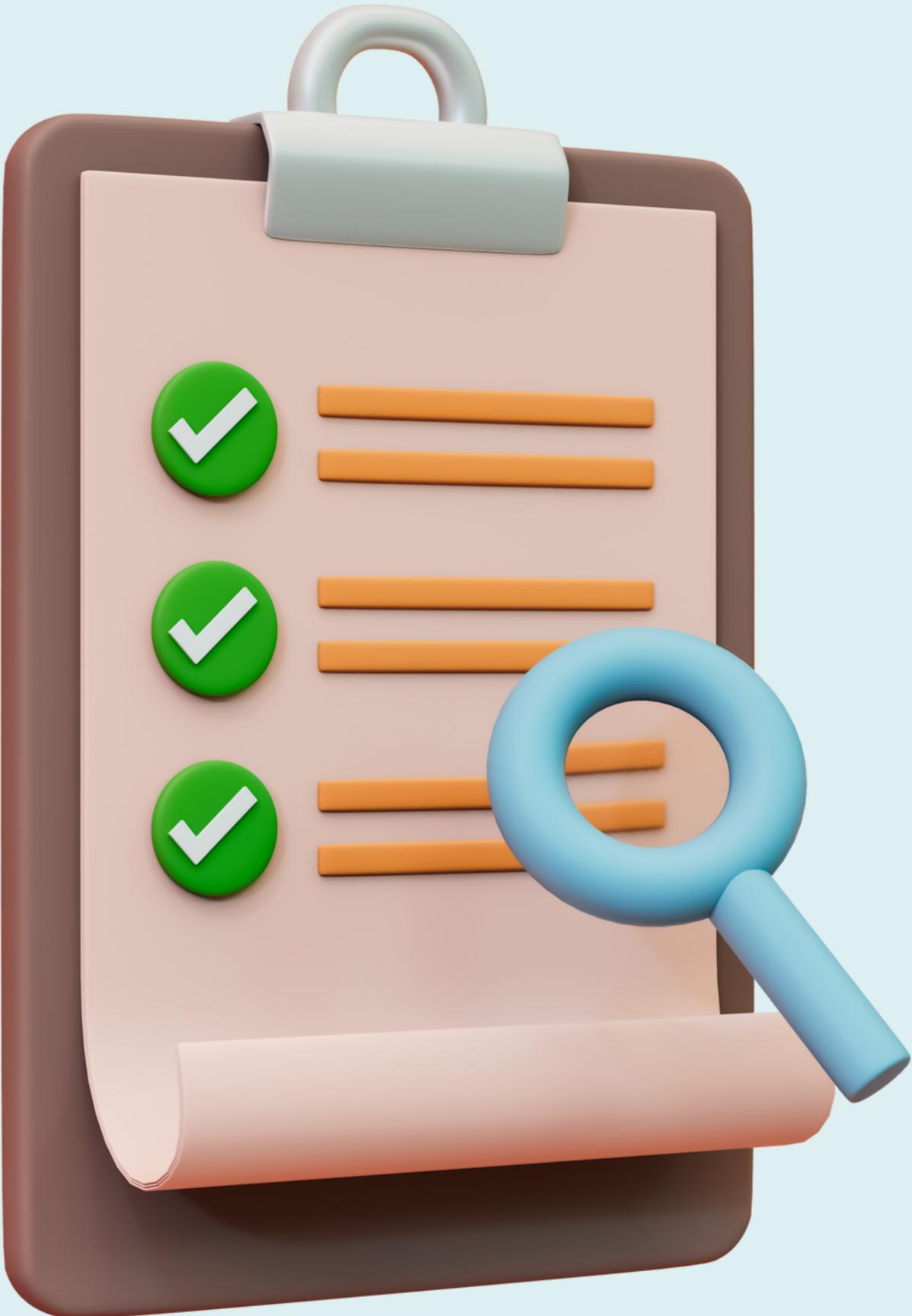
SADRŽAJ

SKUP PODATAKA

CILJEVI I ZADACI ISTRAŽIVANJA

ALGORITMI MAŠINSKOG UČENJA

ANALIZA REZULTATA



SKUP PODATAKA

Ovaj skup podataka klasificuje ljude, opisane skupom atributa, kao pogodne, ili ne tako pogodne, za izdavanje kredita. Autor podataka je dr Hans Hofman, a podaci su iz 1994. godine.



CILJEVI I ZADACI ISTRAŽIVANJA

- POMOĆ PRILIKOM ODABIRA KLIJENATA U BANKARSKOM SEKTORU
- CILJ JE KREIRANJE PREDIKTIVNOG MODELA KOJI KLASIFIKUJE KLIJENTE
- ANALIZA FAKTORA KOJI UTIČU NA PROCENU
- ODABIR PREDIKTIVNIH ALGORITAMA

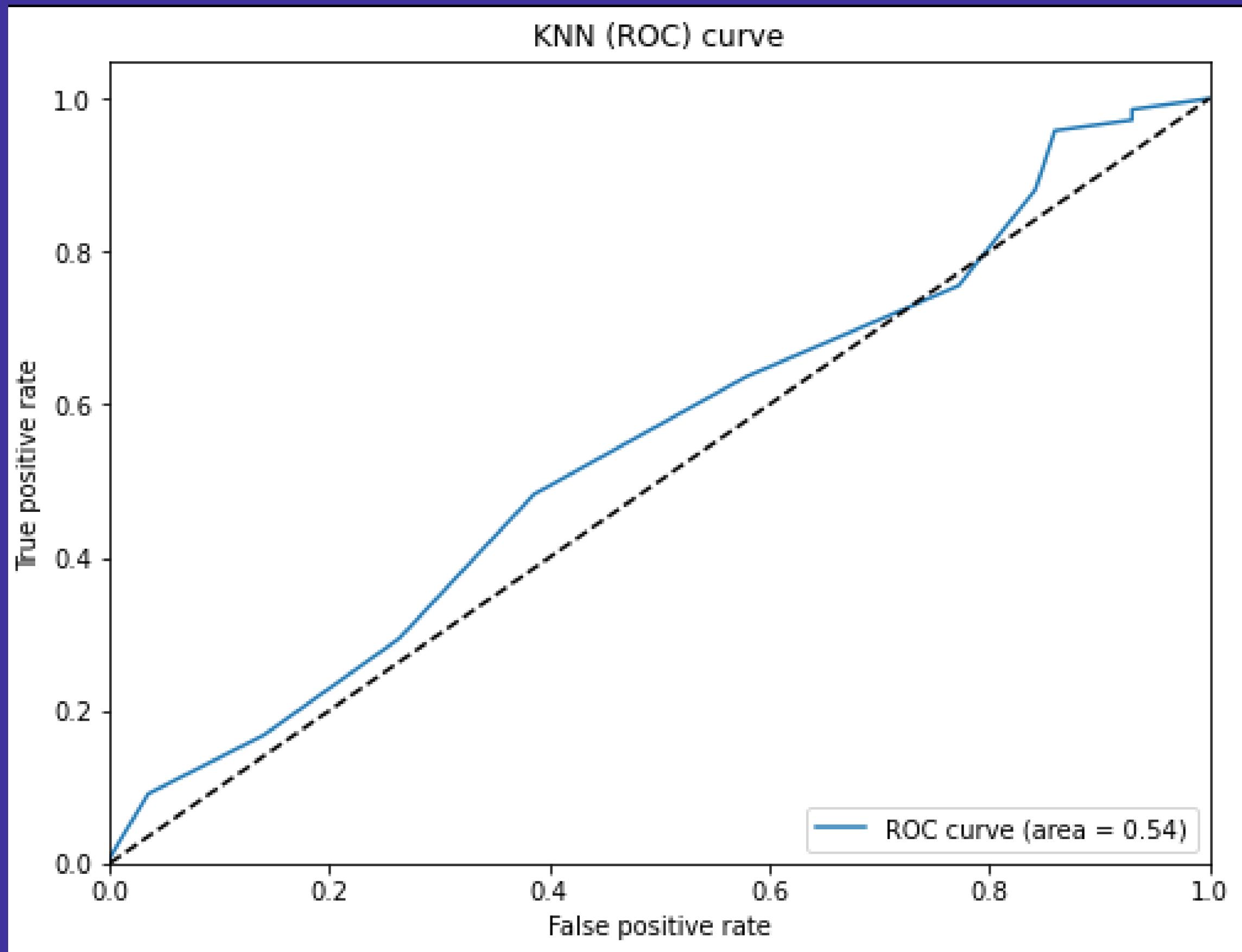


ALGORITMI MAŠINSKOG UČENJA

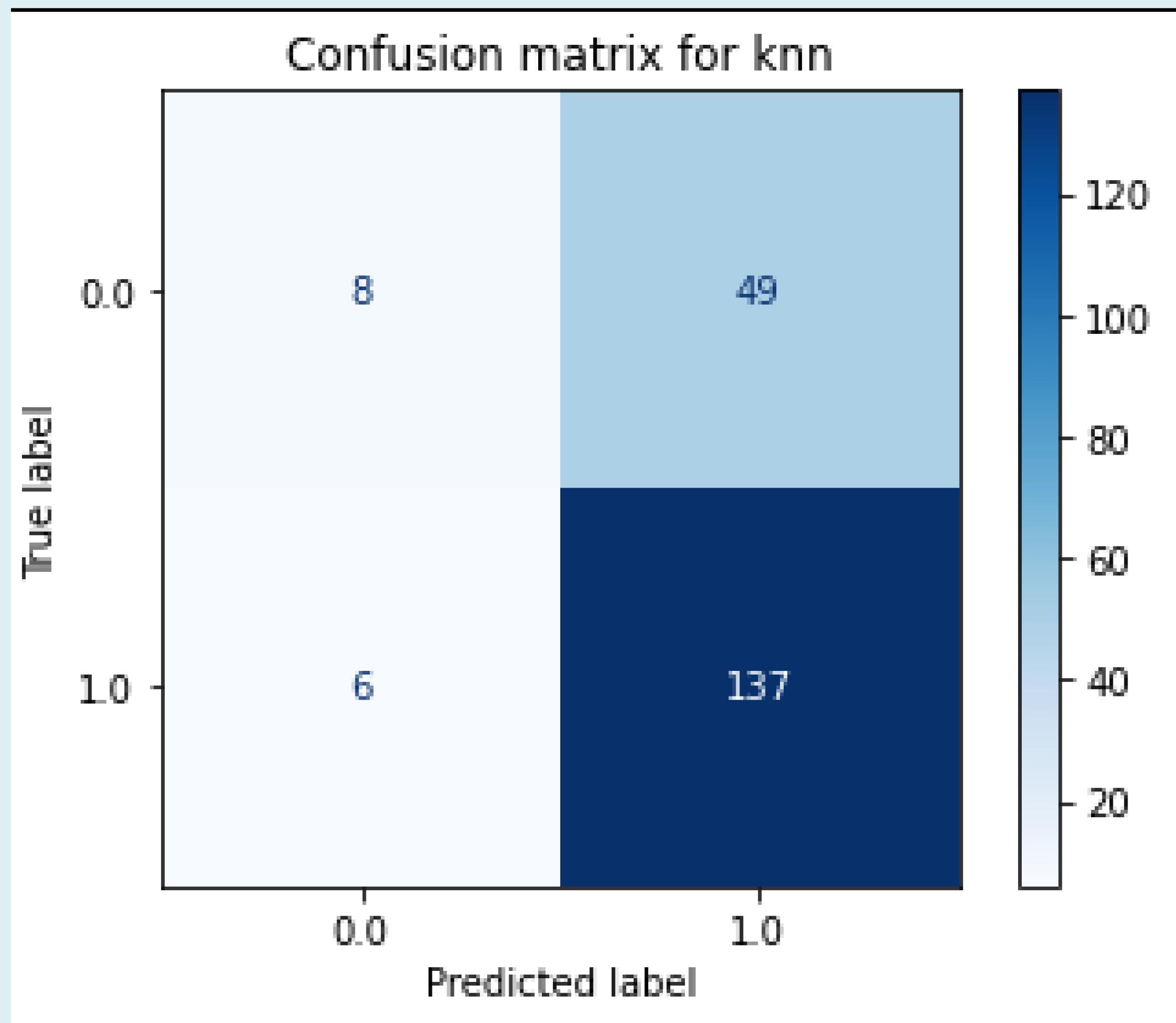
KNN ALGORITAM (ALGORITAM NAJBLIŽIH SUSEDА)



KNN (ROC) curve



Confusion matrix for knn

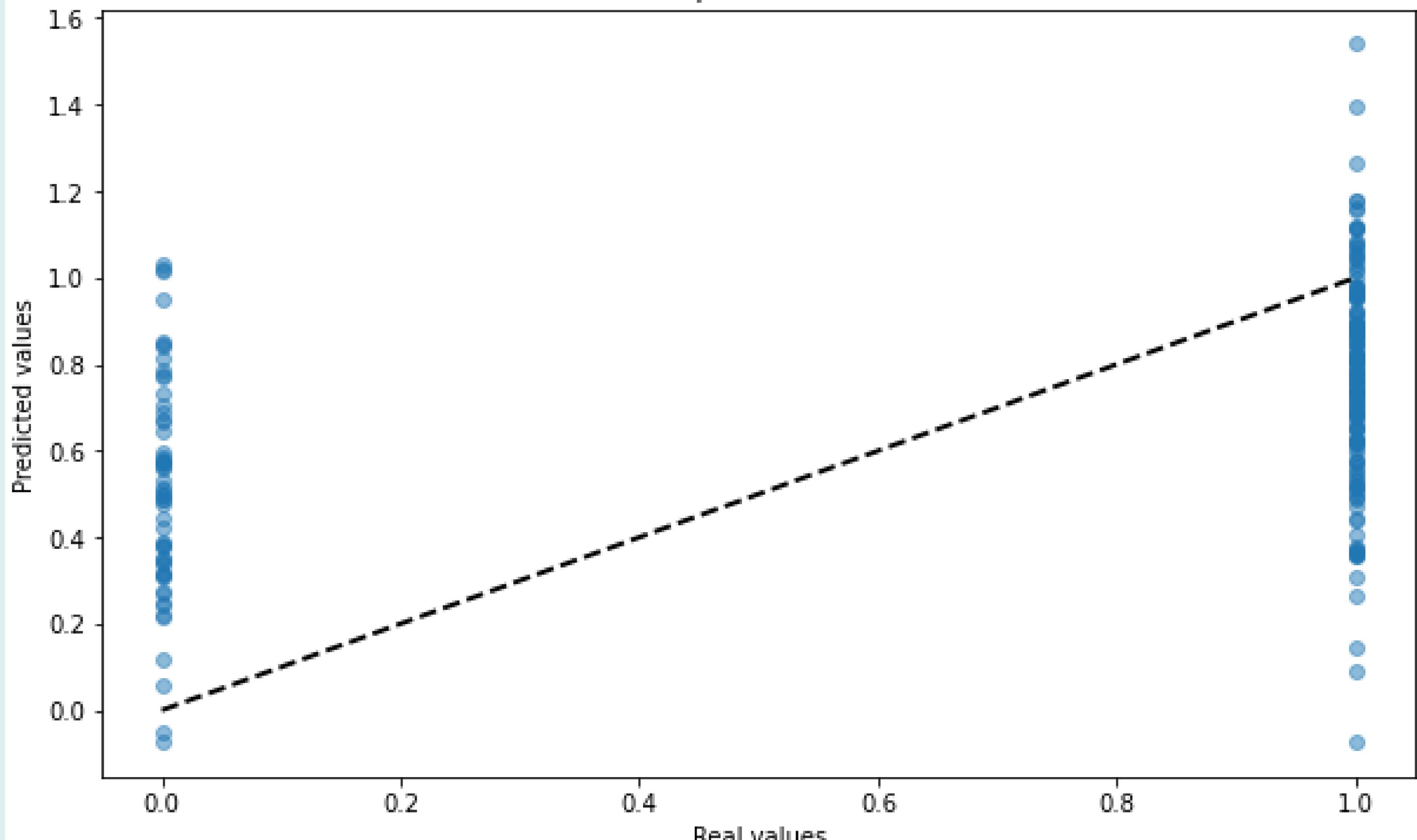


ALGORITMI MAŠINSKOG UČENJA

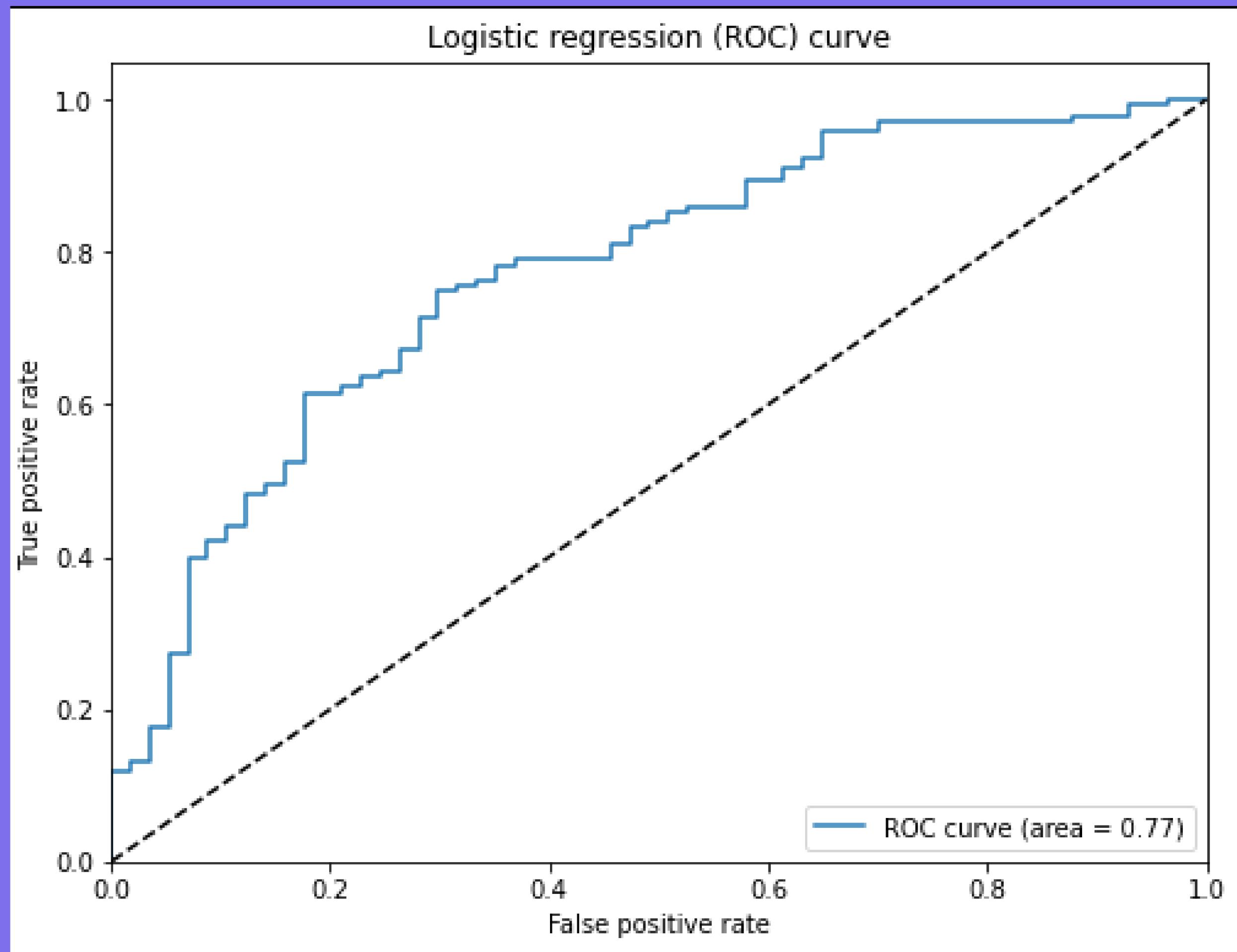
LOGISTIČKA REGRESIJA



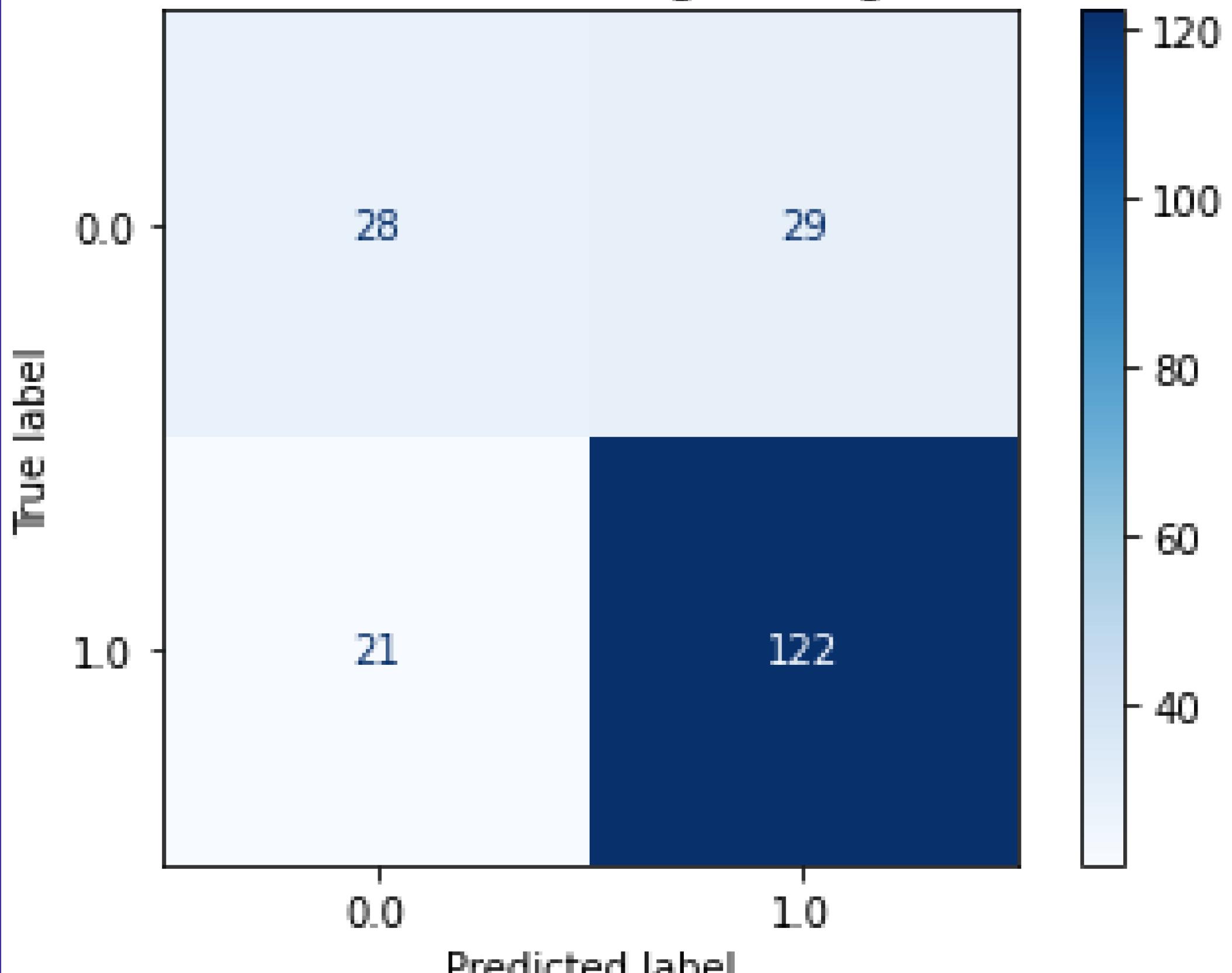
Real vs predicted values



Logistic regression (ROC) curve



Confusion matrix for logistic regression

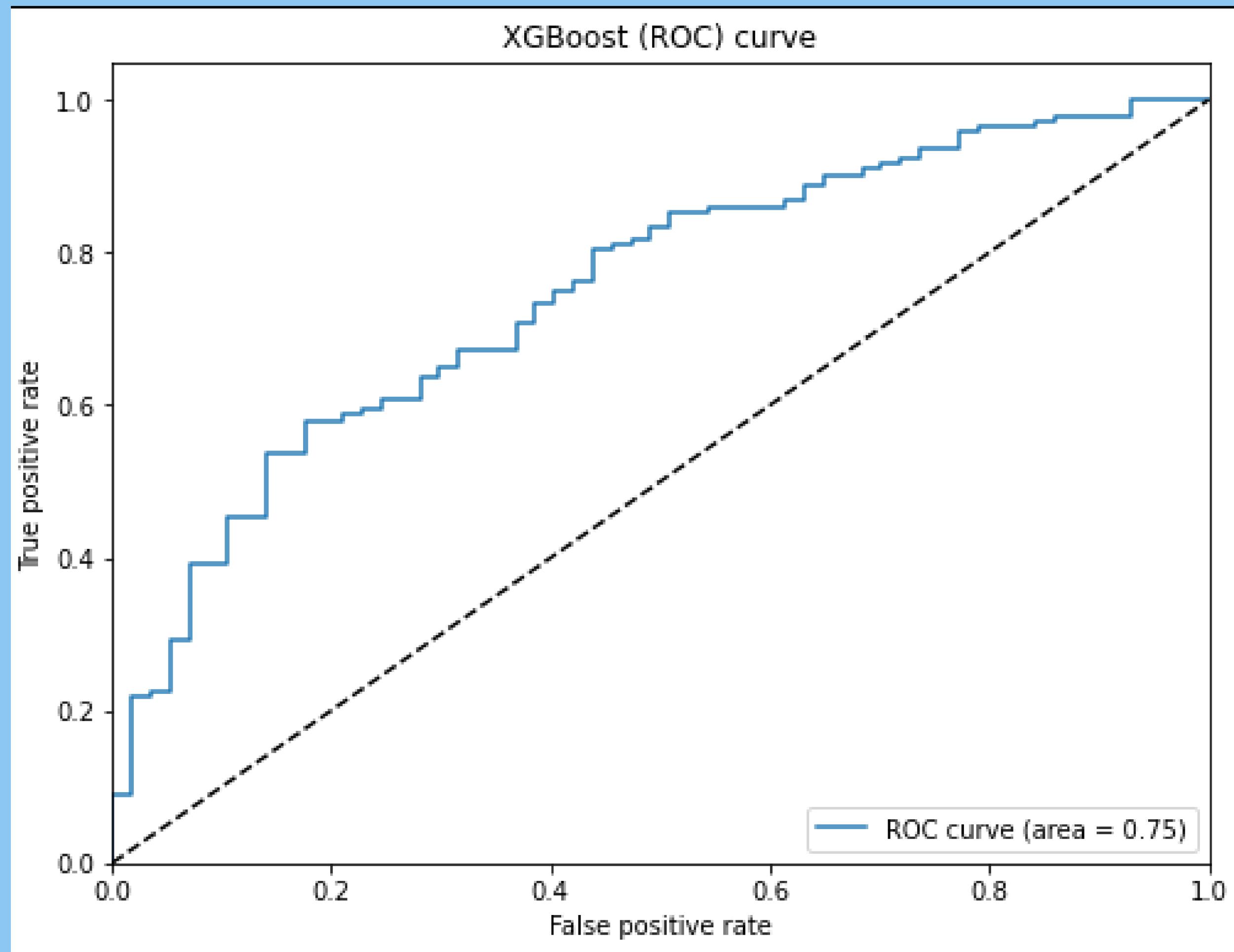


ALGORITMI MAŠINSKOG UČENJA

ALGORITAM EKSTREMNOG POJAČANJA GRADIJENTA (XGBOOST)

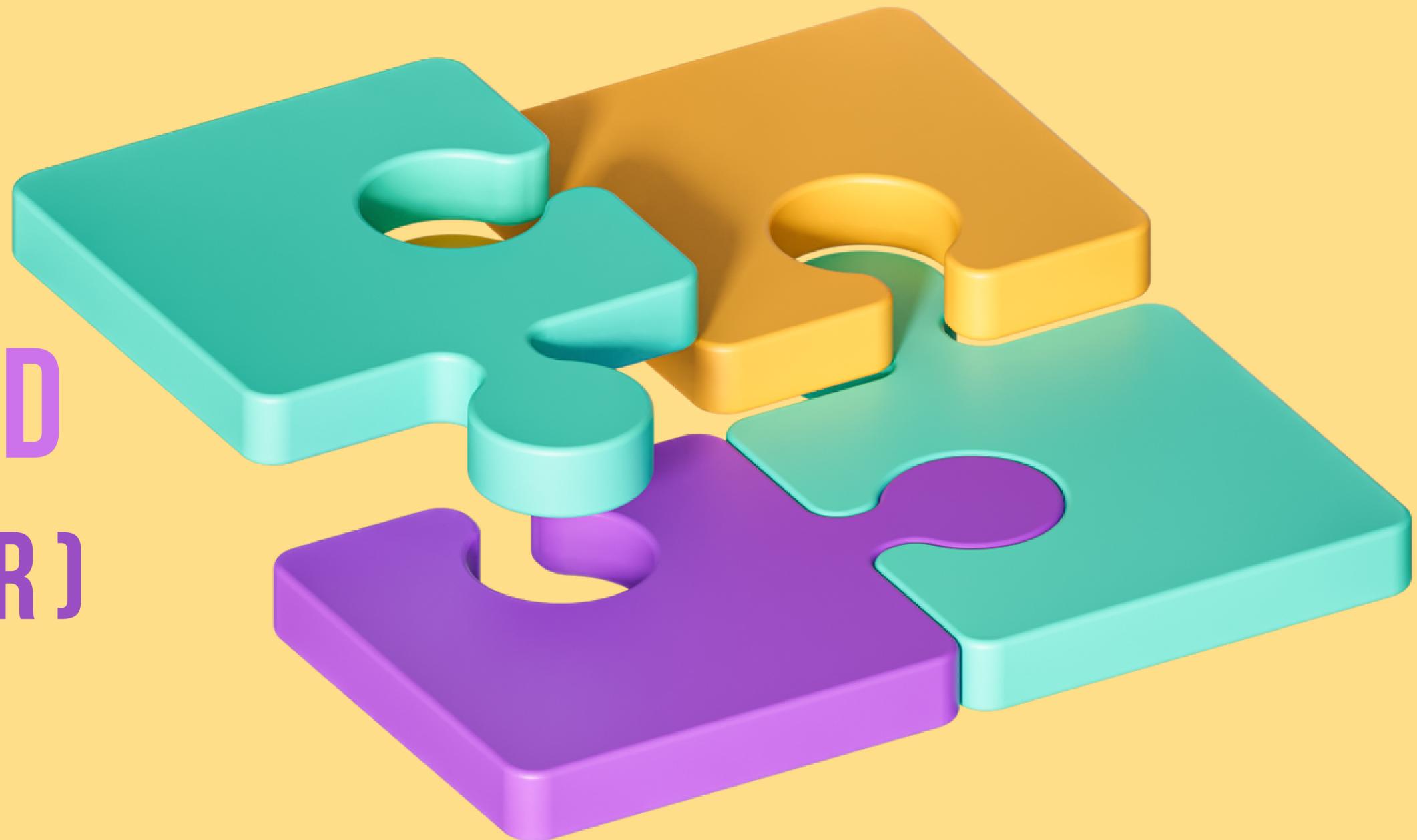


XGBoost (ROC) curve

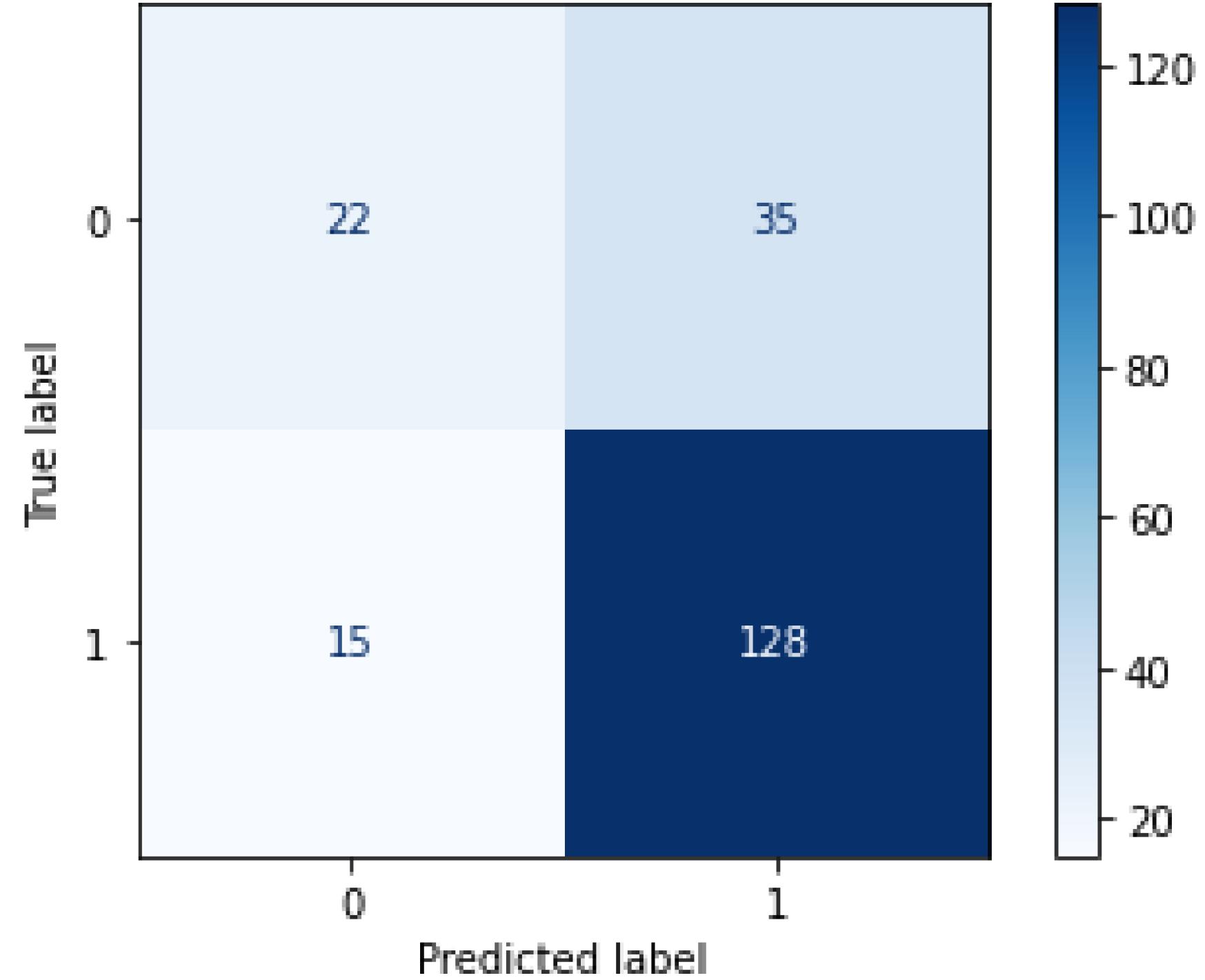


ALGORITMI MAŠINSKOG UČENJA

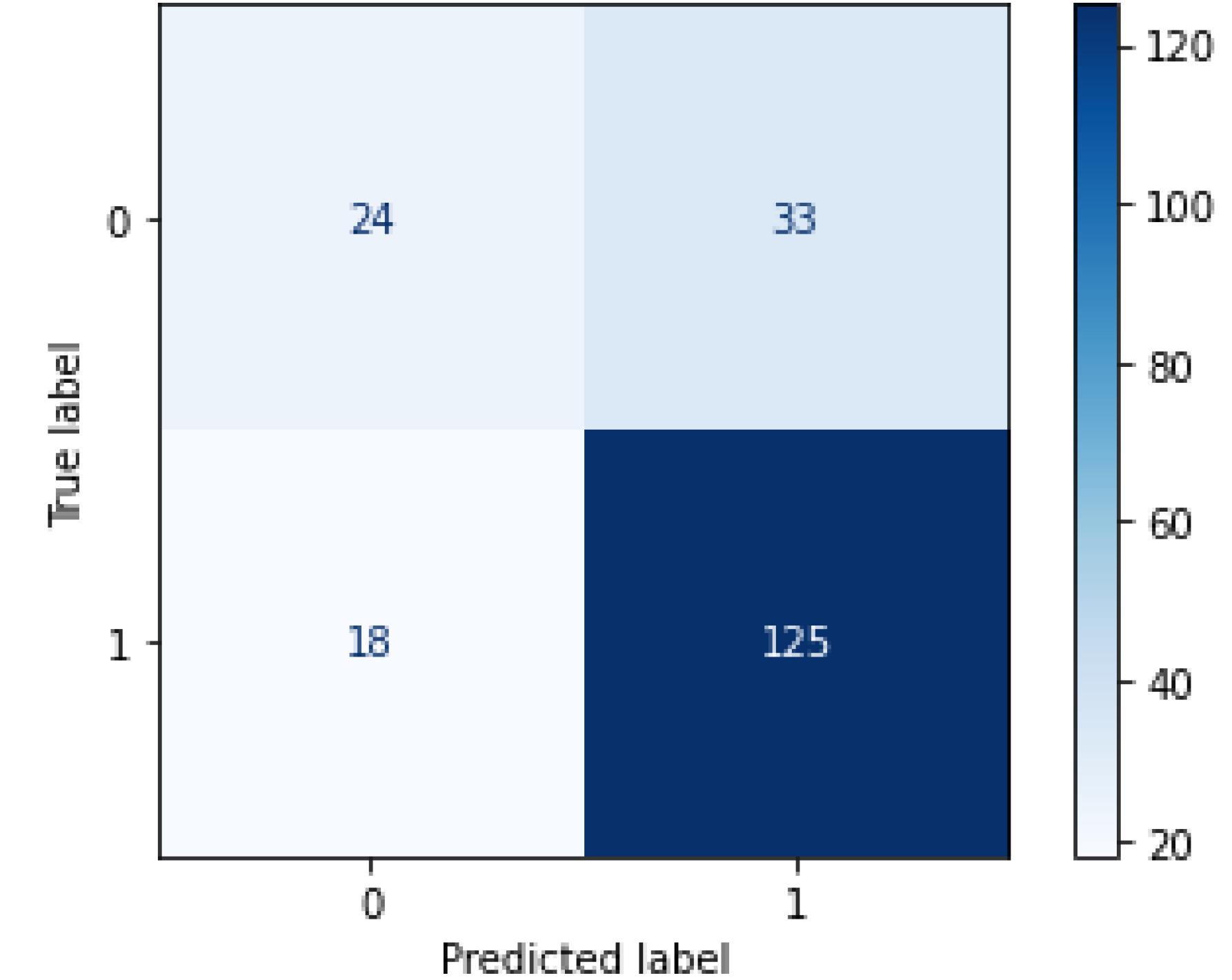
ANSAMBL METOD
(VOTING CLASSIFIER)



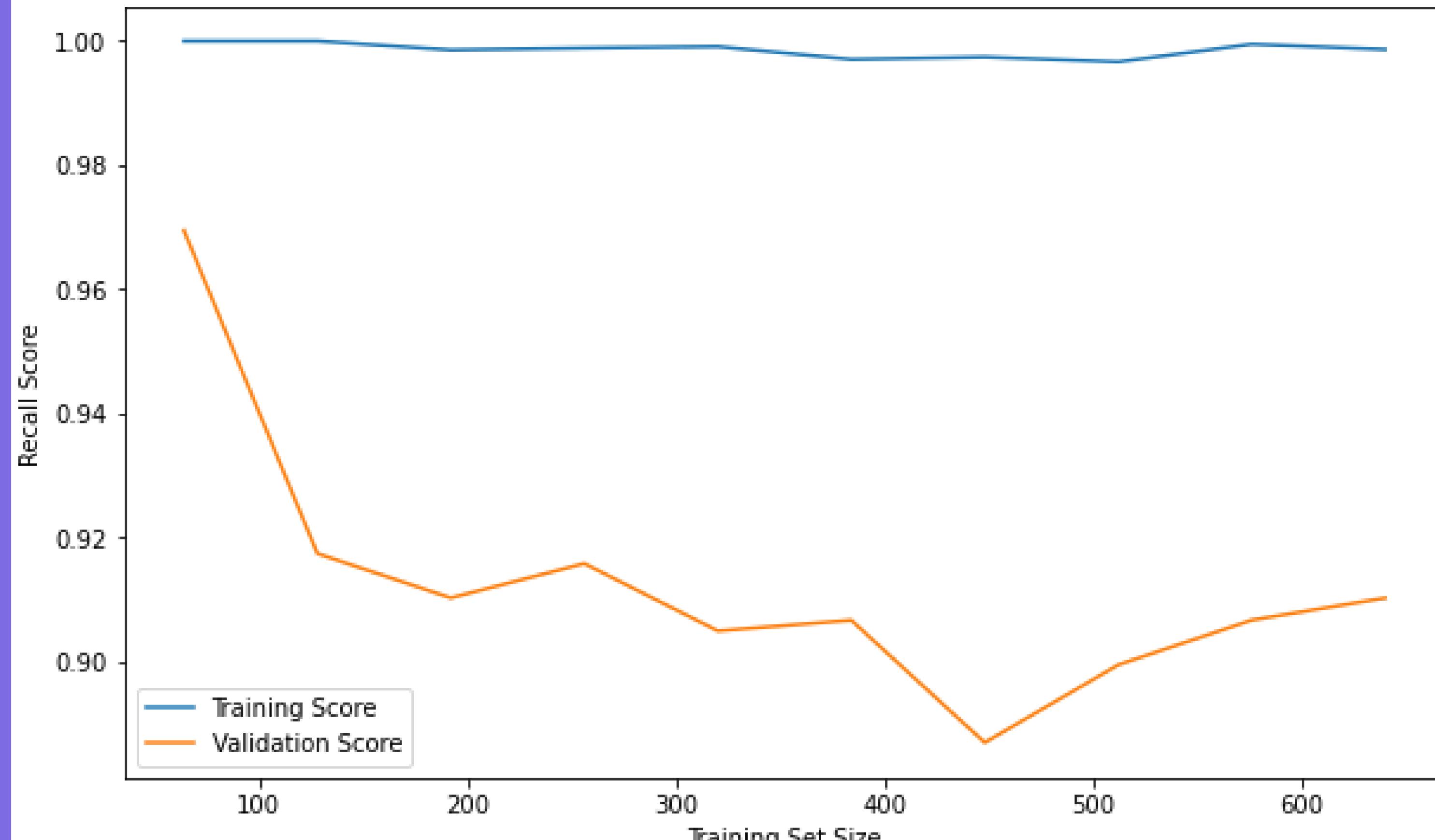
Confusion Matrix for Ensemble Model (Hard Voting)



Confusion Matrix for Ensemble Model (Soft Voting)



Learning Curve for Ensemble Model (Soft Voting)



Ensemble Model Accuracy: 0.745

Ensemble Model Classification Report:

	precision	recall	f1-score	support
0.0	0.57	0.42	0.48	57
1.0	0.79	0.87	0.83	143
accuracy			0.74	200
macro avg	0.68	0.65	0.66	200
weighted avg	0.73	0.74	0.73	200

Cross Validation Recall scores are: [0.89285714 0.9375 0.9009009 0.88288288 0.93693694]

Average Cross Validation Recall score: 0.9102155727155727

Cross Validation Recall standard deviation: 0.025463824387477123

Ensemble Model Accuracy: 0.75

Ensemble Model Classification Report:

	precision	recall	f1-score	support
0.0	0.59	0.39	0.47	57
1.0	0.79	0.90	0.84	143
accuracy			0.75	200
macro avg	0.69	0.64	0.65	200
weighted avg	0.73	0.75	0.73	200

Cross Validation Recall scores are: [0.91071429 0.92857143 0.9009009 0.89189189 0.92792793]

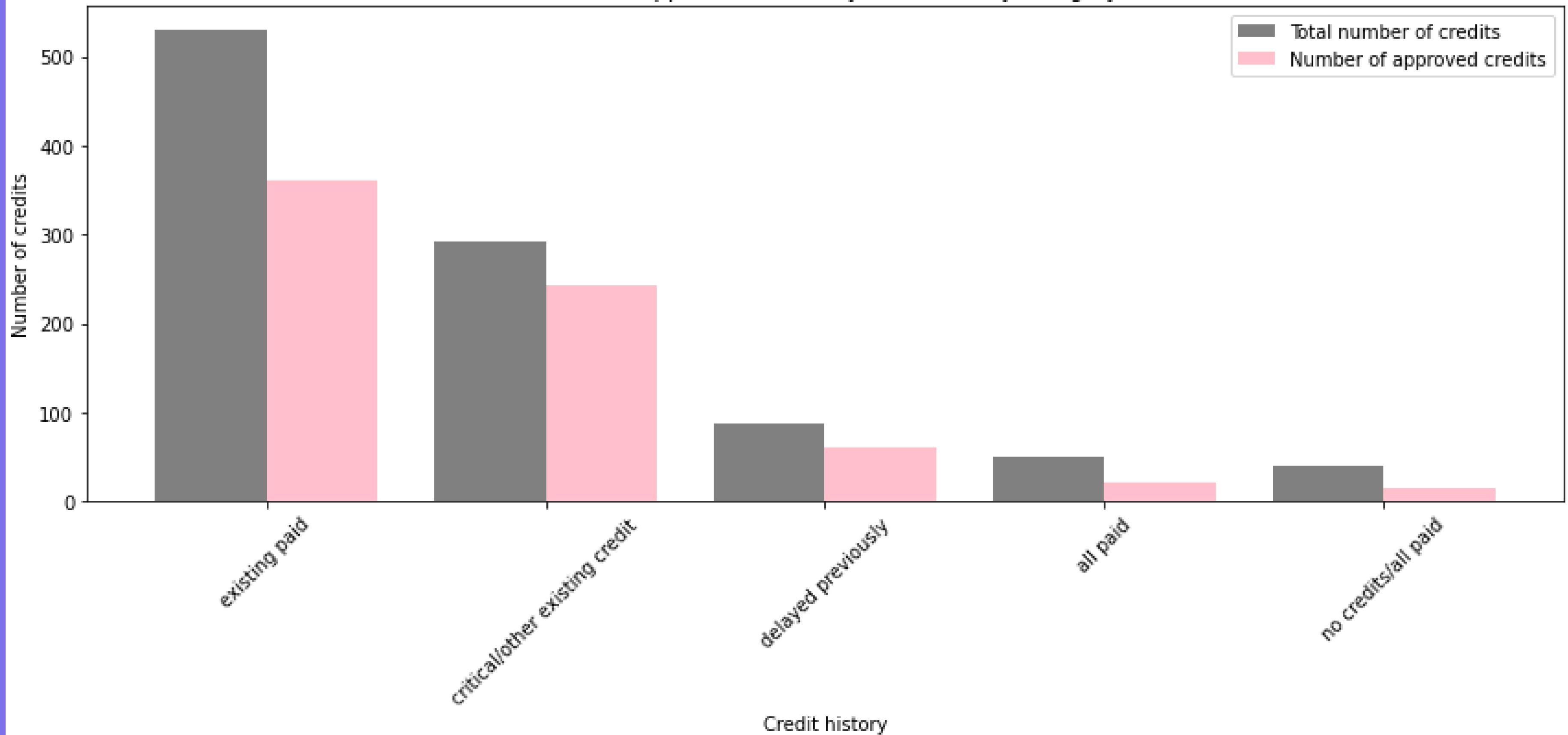
Average Cross Validation Recall score: 0.912001287001287

Cross Validation Recall standard deviation: 0.016259537189114878

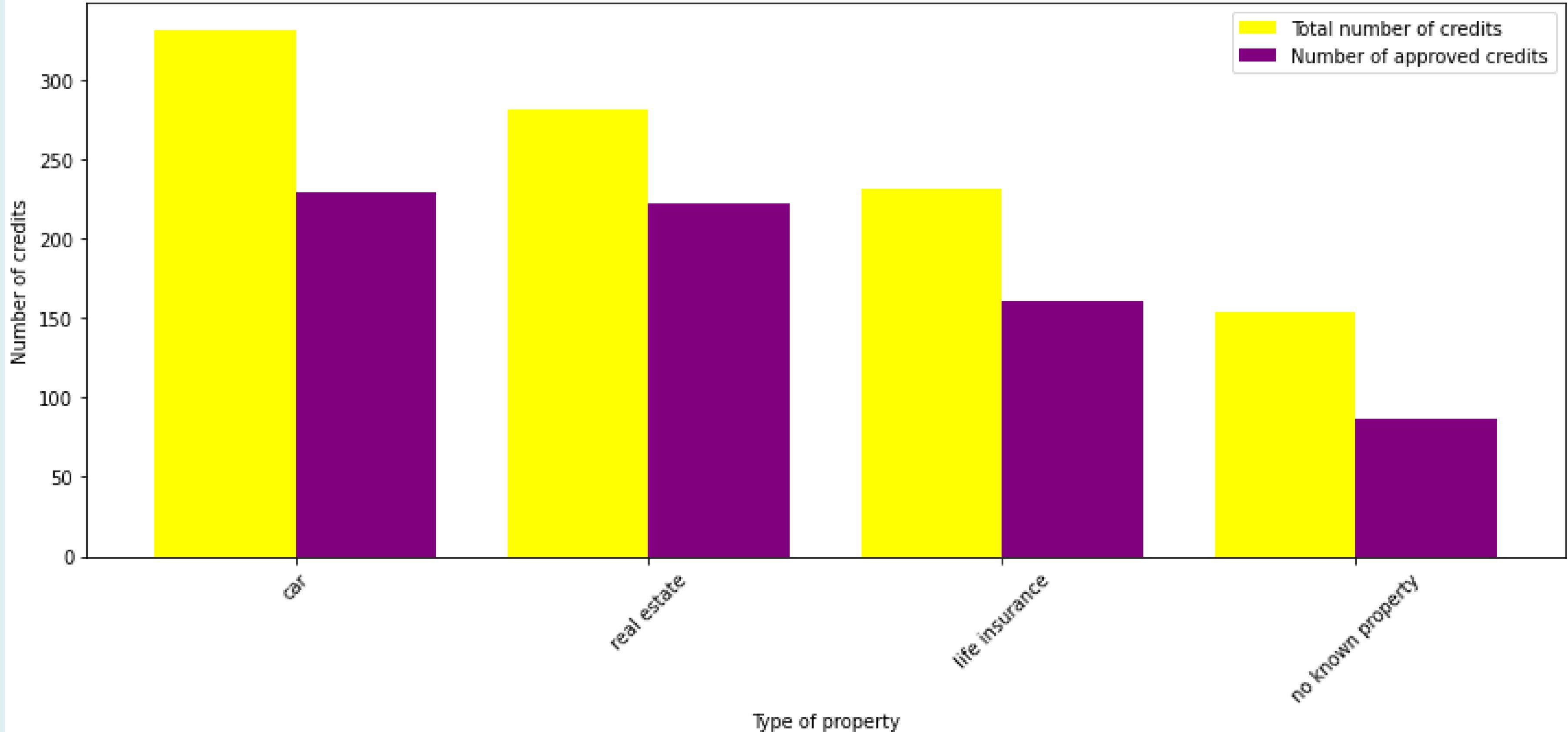
OSTALE ANALIZE



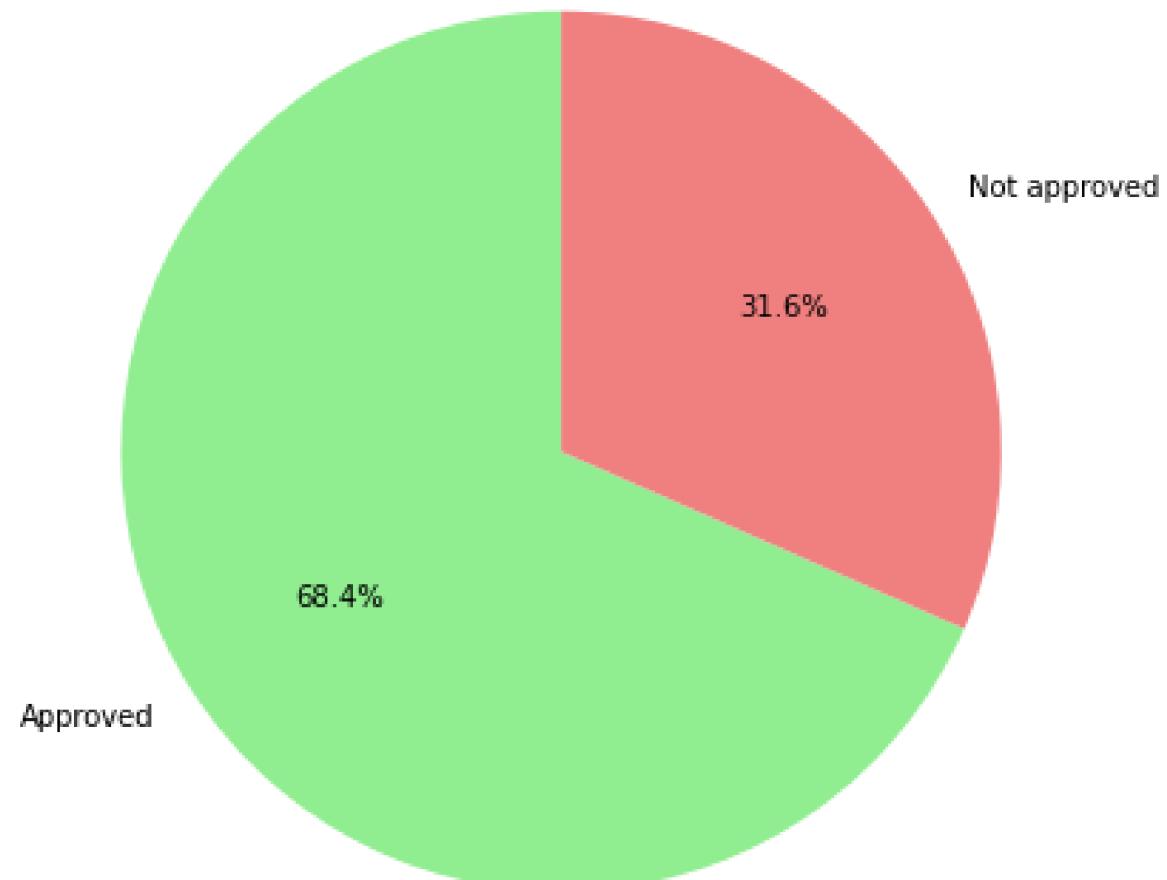
Total and approved credits by credit history category



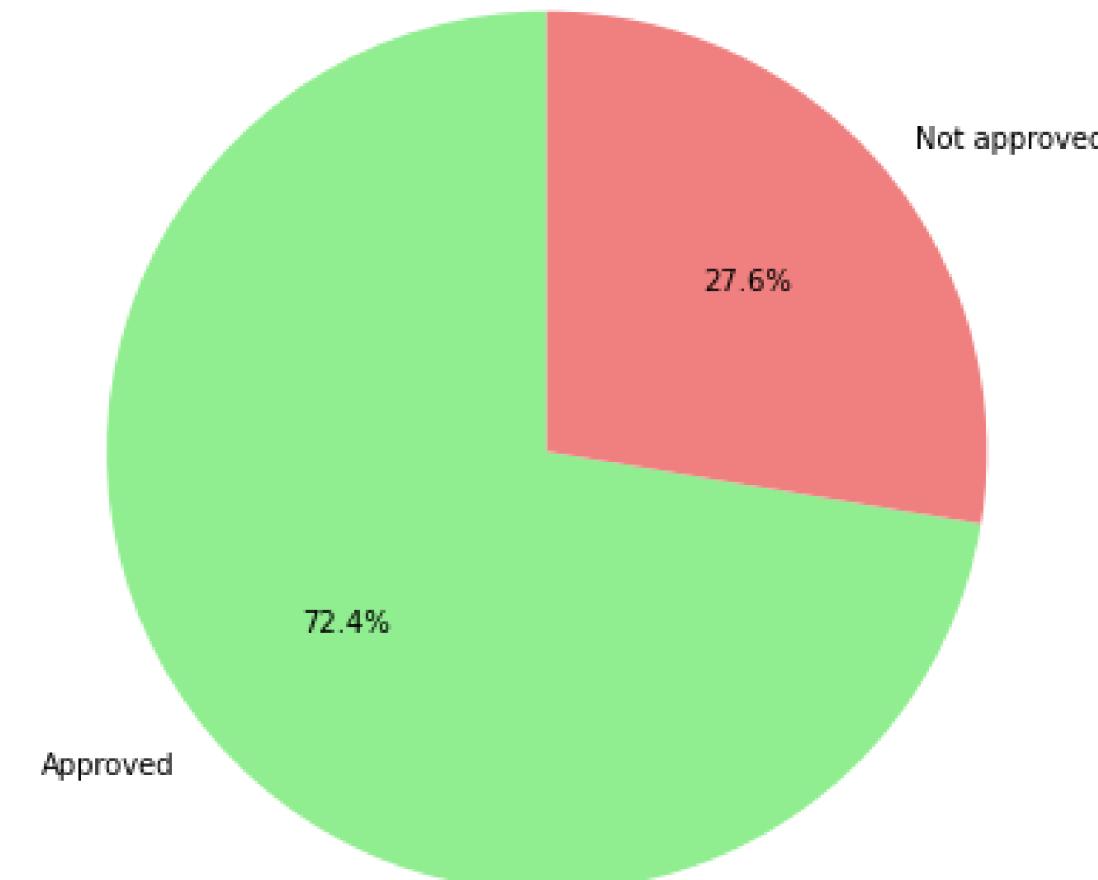
Total and Approved Credits by property category



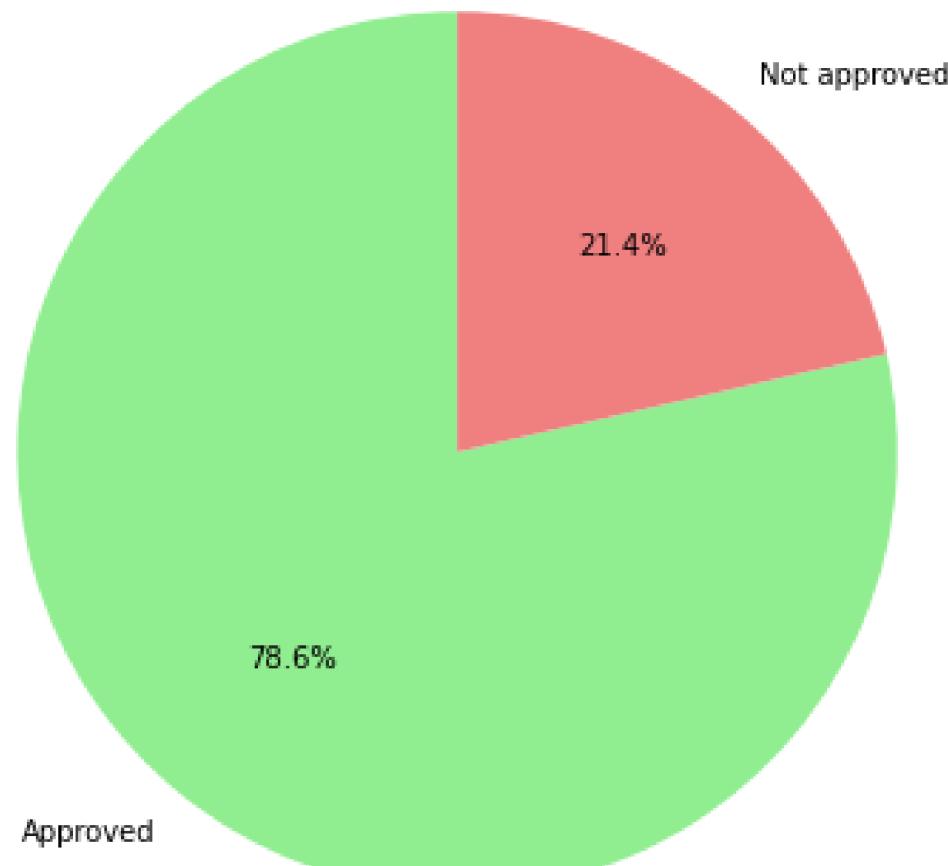
Existing credits: 1.0



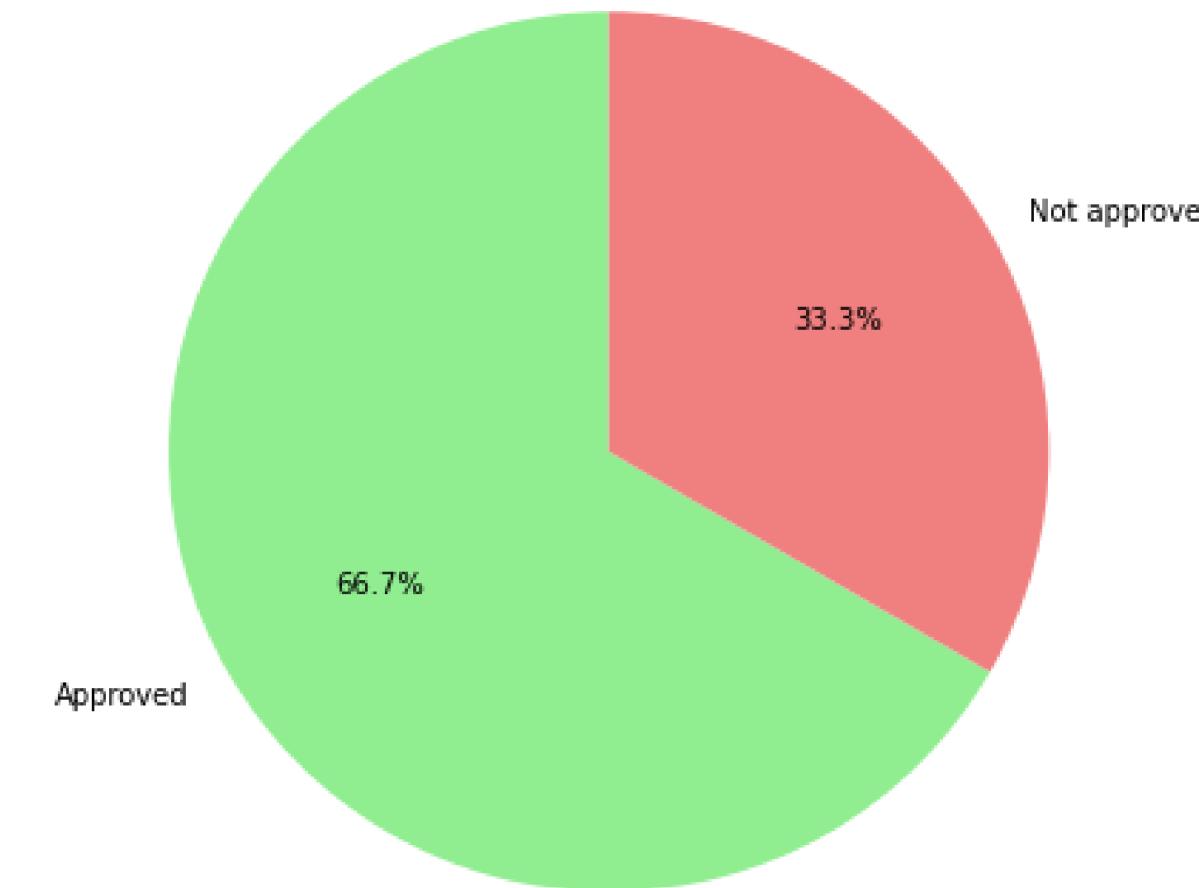
Existing credits: 2.0

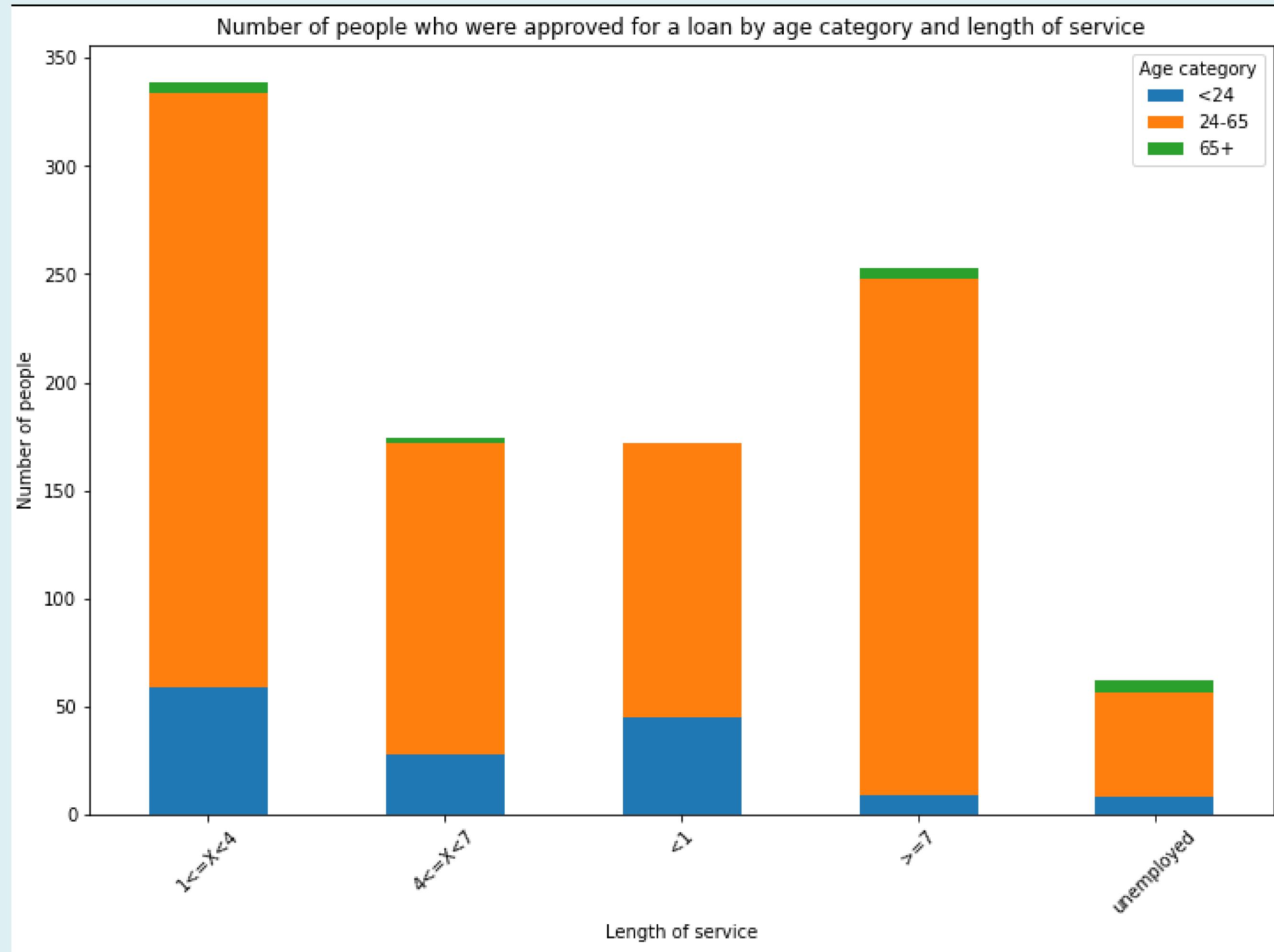


Existing credits: 3.0



Existing credits: 4.0







ZAKLJUČAK

HVALA NA PAŽNJI

