

# Dataset: bank-tr.csv

Experiment: exp\_01

## DecisionTreeClassifier(random\_state=0)

### DT experiment best results:

Experiment best score (accuracy): 0.684798

### DT cross validation scores:

Accuracy: 0.684798

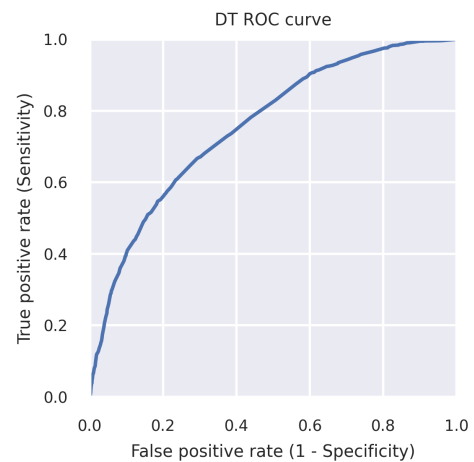
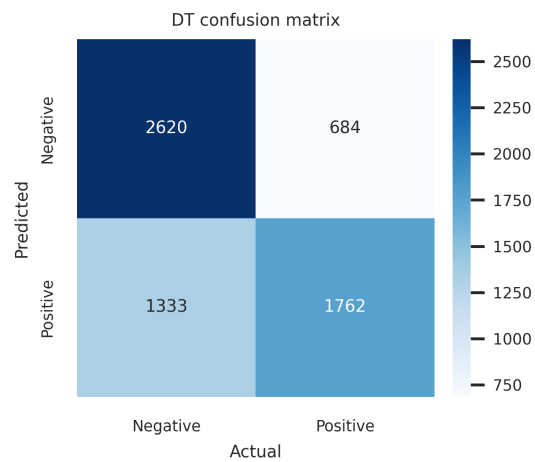
Precision: 0.723145

Recall: 0.569305

F1: 0.634849

AUC: 0.754097

### DT confusion matrix & ROC curve:



### Best classifier:

DecisionTreeClassifier(random\_state=0)

### Best hyperparameters:

ccp\_alpha: 0.001

criterion: entropy

max\_depth: 9

max\_features: sqrt

### Grid search hyperparameters:

ccp\_alpha: [0.1, 0.01, 0.001]

criterion: ['gini', 'entropy']

max\_depth: [5, 6, 7, 8, 9]

max\_features: ['sqrt', 'log2']

# Dataset: bank-tr.csv

Experiment: exp\_01

DecisionTreeClassifier(random\_state=0)

**Experiment parameters:**

n\_splits: 5

scoring: accuracy

target: made\_deposit

**categorical columns:**

town

country

job

married

education

defaulted?

housing

has\_loan

last\_contact

cc\_tr

last\_contact\_month

poutcome

**feature selection:**

accountID: False

town: True

country: True

age: True

job: True

married: True

education: True

defaulted?: True

current\_balance: True

housing: True

has\_loan: True

last\_contact: True

cc\_tr: True

last\_contact\_day: True

last\_contact\_month: True

last\_contact\_duration\_s: True

campaign: True

days\_since\_last\_contact: True

previous: True

poutcome: True

made\_deposit: True



# Dataset: bank-tr.csv

Experiment: exp\_01

LogisticRegression(max\_iter=1000, random\_state=0)

## LR experiment best results:

Experiment best score (accuracy): 0.820598

## LR cross validation scores:

Accuracy: 0.820598

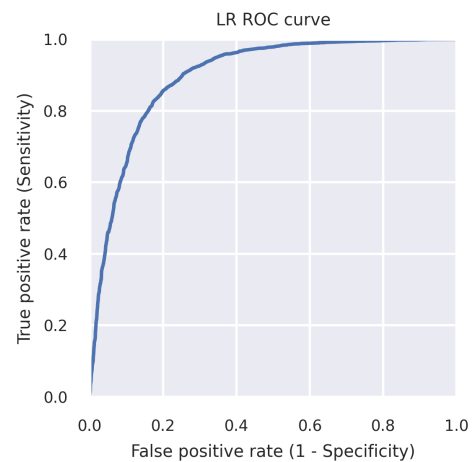
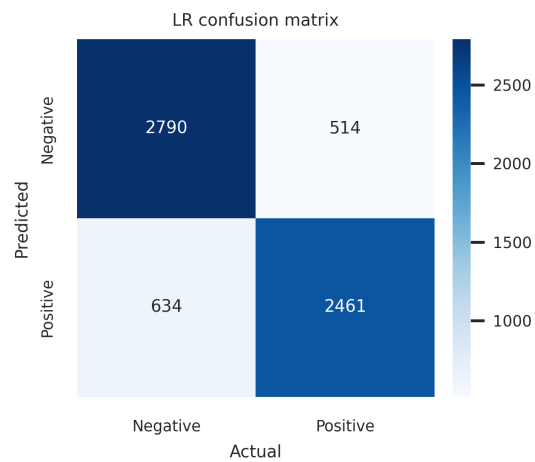
Precision: 0.827234

Recall: 0.795153

F1: 0.810819

AUC: 0.898059

## LR confusion matrix & ROC curve:



## Best classifier:

LogisticRegression(max\_iter=1000, random\_state=0)

## Best hyperparameters:

C: 1.0

penalty: l1

solver: saga

## Grid search hyperparameters:

penalty: ['l1', 'l2']

C: [1.0, 0.1, 10]

solver: ['liblinear', 'saga']

# Dataset: bank-tr.csv

Experiment: exp\_01

LogisticRegression(max\_iter=1000, random\_state=0)

**Experiment parameters:**

n\_splits: 5

scoring: accuracy

target: made\_deposit

**categorical columns:**

town

country

job

married

education

defaulted?

housing

has\_loan

last\_contact

cc\_tr

last\_contact\_month

poutcome

**feature selection:**

accountID: False

town: True

country: True

age: True

job: True

married: True

education: True

defaulted?: True

current\_balance: True

housing: True

has\_loan: True

last\_contact: True

cc\_tr: True

last\_contact\_day: True

last\_contact\_month: True

last\_contact\_duration\_s: True

campaign: True

days\_since\_last\_contact: True

previous: True

poutcome: True

made\_deposit: True

