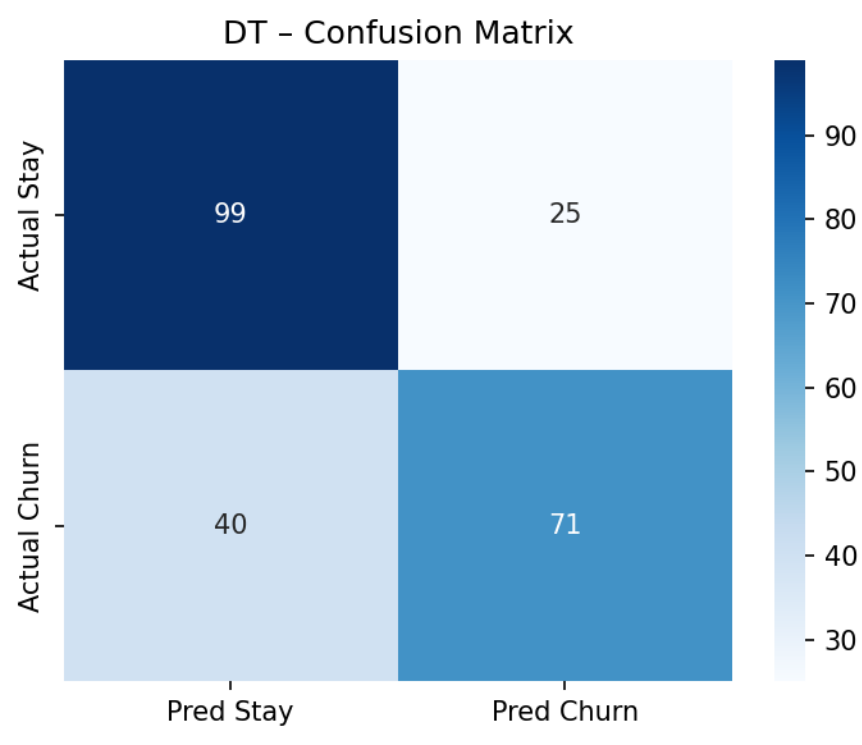
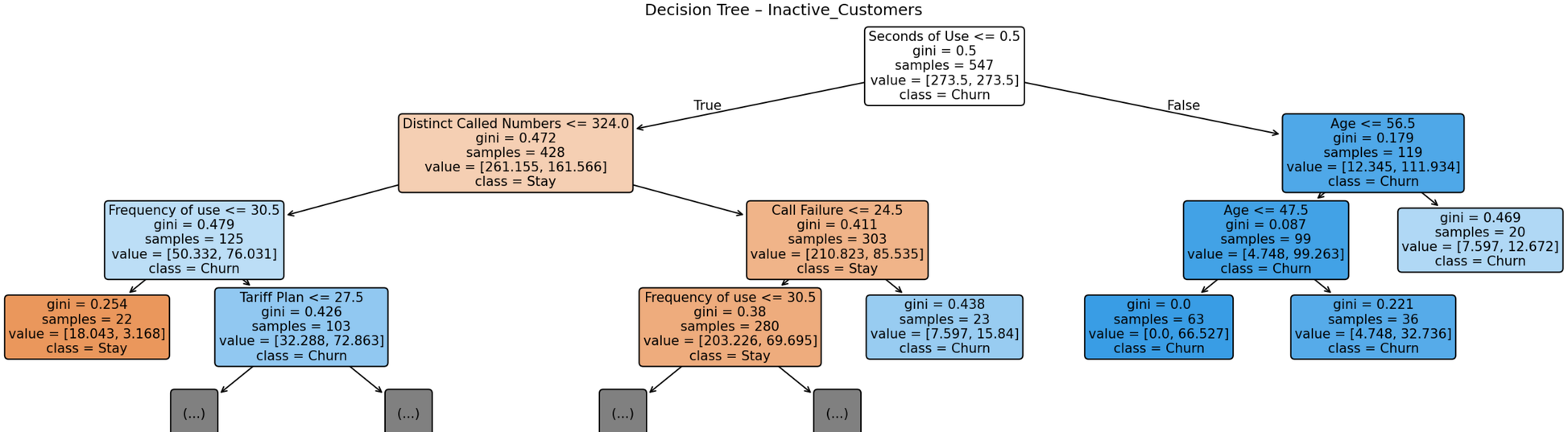
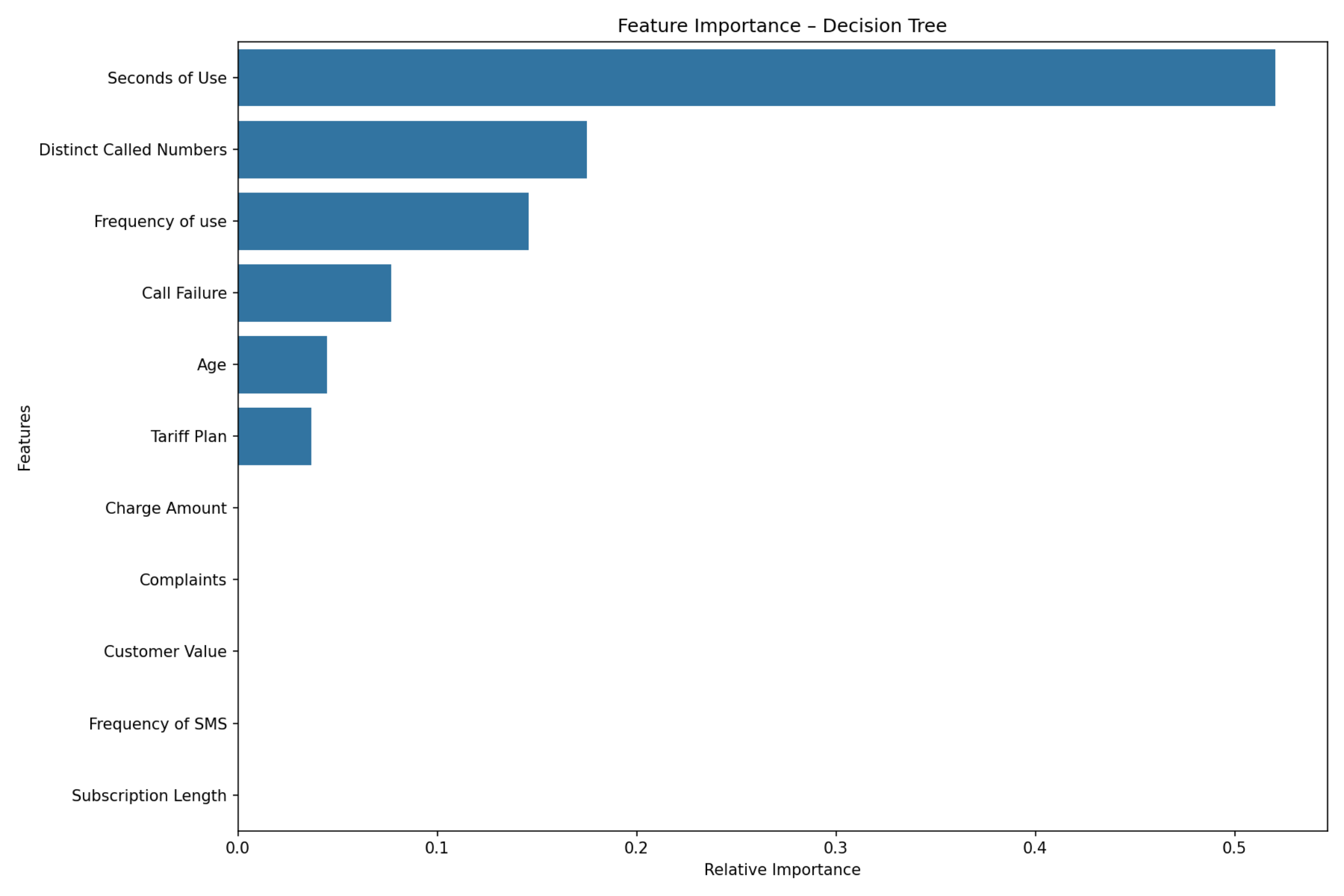
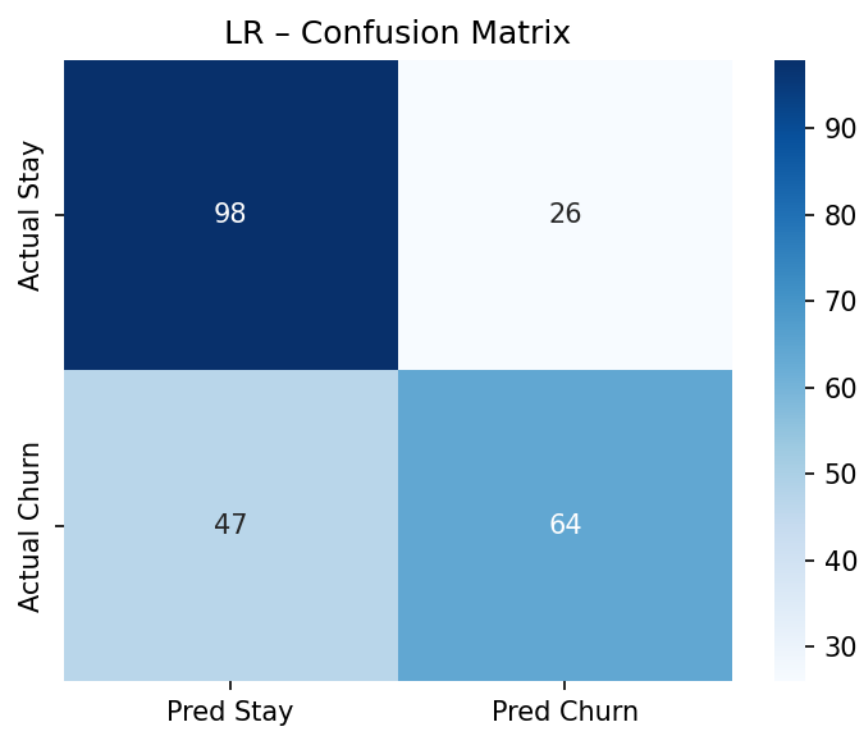


Summary (AUC=0.776)

accuracy	precision	recall	f1-score
0.72	0.73	0.72	0.72

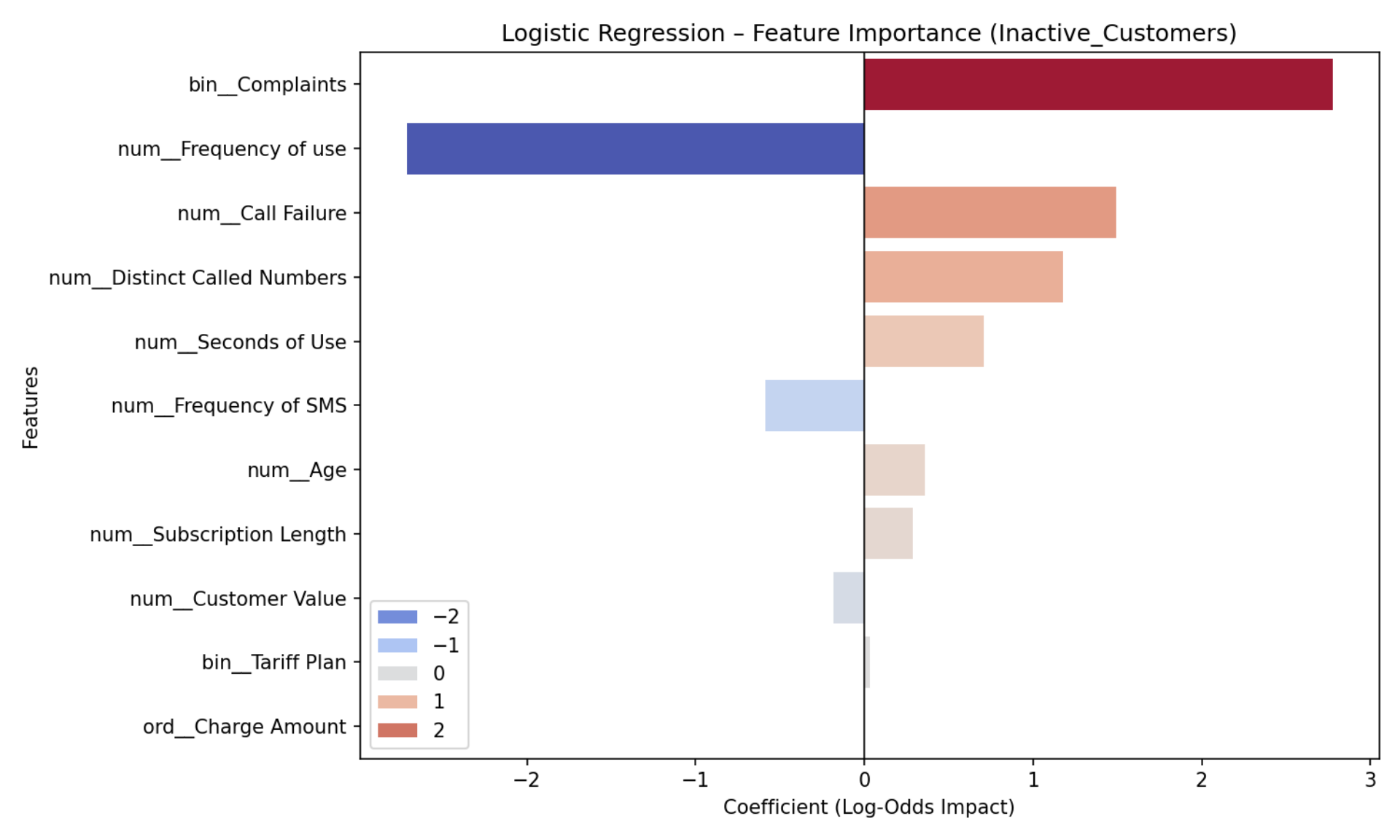

Decision Tree – Inactive_Customers
Seconds of Use <= 0.5
gini = 0.5
samples = 547
value = [273.5, 273.5]
class = Churn
True
False
Distinct Called Numbers <= 324.0
gini = 0.472
samples = 428
value = [261.155, 161.566]
class = Stay
Age <= 56.5
gini = 0.179
samples = 119
value = [12.345, 111.934]
class = Churn
Frequency of use <= 30.5
gini = 0.479
samples = 125
value = [50.332, 76.031]
class = Churn
Call Failure <= 24.5
gini = 0.411
samples = 303
value = [210.823, 85.535]
class = Stay
Age <= 47.5
gini = 0.087
samples = 99
value = [4.748, 99.263]
class = Churn
gini = 0.469
samples = 20
value = [7.597, 12.672]
class = Churn
gini = 0.254
samples = 22
value = [18.043, 3.168]
class = Stay
Tariff Plan <= 27.5
gini = 0.426
samples = 103
value = [32.288, 72.863]
class = Churn
Frequency of use <= 30.5
gini = 0.38
samples = 280
value = [203.226, 69.695]
class = Stay
gini = 0.438
samples = 23
value = [7.597, 15.84]
class = Churn
gini = 0.0
samples = 63
value = [0.0, 66.527]
class = Churn
gini = 0.221
samples = 36
value = [4.748, 32.736]
class = Churn
(...)
(...)
(...)
(...)

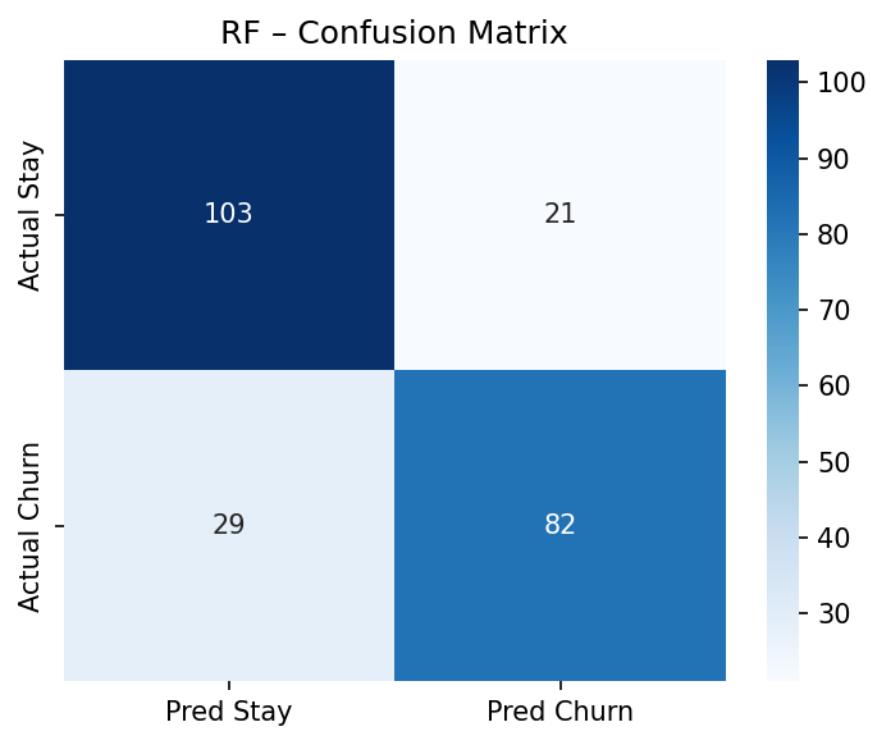

Feature Importance – Decision Tree
Seconds of Use
Distinct Called Numbers
Frequency of use
Call Failure
Age
Tariff Plan
Charge Amount
Complaints
Customer Value
Frequency of SMS
Subscription Length
Features
0.0
0.1
0.2
0.3
0.4
0.5
Relative Importance



Summary (AUC=0.791)

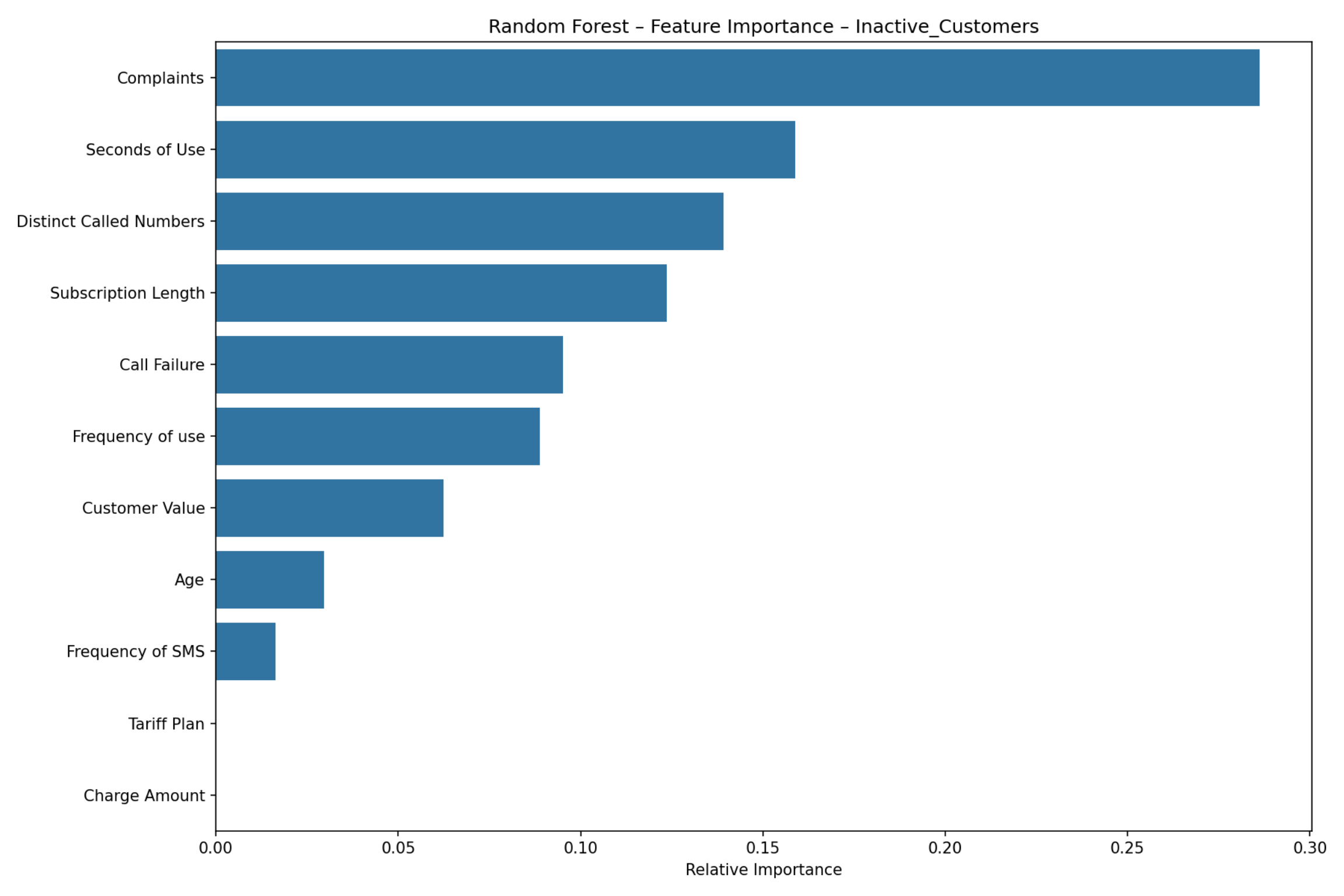
accuracy	precision	recall	f1-score
0.69	0.69	0.69	0.69

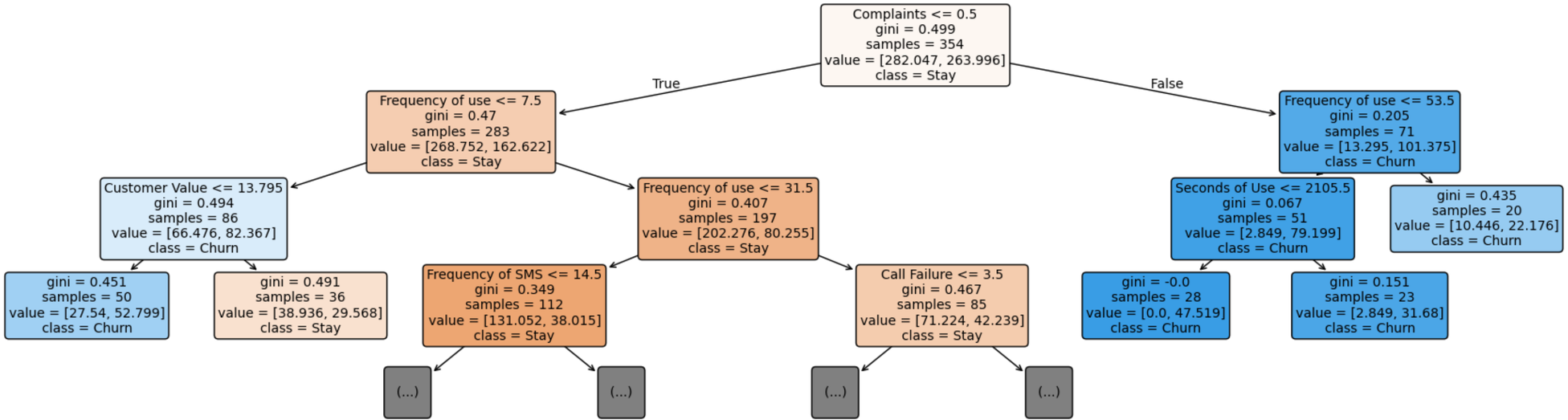

Logistic Regression – Feature Importance (Inactive_Customers)
bin__Complaints
num__Frequency of use
num__Call Failure
num__Distinct Called Numbers
num__Seconds of Use
num__Frequency of SMS
num__Age
num__Subscription Length
num__Customer Value
bin__Tariff Plan
ord__Charge Amount
Features
−2
−1
0
1
2
−2
−1
0
1
2
3
Coefficient (Log-Odds Impact)



Summary (AUC=0.869)

accuracy	precision	recall	f1-score
0.79	0.79	0.79	0.79


Random Forest – Feature Importance – Inactive_Customers
Complaints
Seconds of Use
Distinct Called Numbers
Subscription Length
Call Failure
Frequency of use
Customer Value
Age
Frequency of SMS
Tariff Plan
Charge Amount
0.00
0.05
0.10
0.15
0.20
0.25
0.30
Relative Importance


Complaints <= 0.5
gini = 0.499
samples = 354
value = [282.047, 263.996]
class = Stay
True
False
Frequency of use <= 7.5
gini = 0.47
samples = 283
value = [268.752, 162.622]
class = Stay
Frequency of use <= 53.5
gini = 0.205
samples = 71
value = [13.295, 101.375]
class = Churn
Customer Value <= 13.795
gini = 0.494
samples = 86
value = [66.476, 82.367]
class = Churn
Frequency of use <= 31.5
gini = 0.407
samples = 197
value = [202.276, 80.255]
class = Stay
Seconds of Use <= 2105.5
gini = 0.067
samples = 51
value = [2.849, 79.199]
class = Churn
gini = 0.435
samples = 20
value = [10.446, 22.176]
class = Churn
gini = 0.451
samples = 50
value = [27.54, 52.799]
class = Churn
gini = 0.491
samples = 36
value = [38.936, 29.568]
class = Stay
Frequency of SMS <= 14.5
gini = 0.349
samples = 112
value = [131.052, 38.015]
class = Stay
Call Failure <= 3.5
gini = 0.467
samples = 85
value = [71.224, 42.239]
class = Stay
gini = -0.0
samples = 28
value = [0.0, 47.519]
class = Churn
gini = 0.151
samples = 23
value = [2.849, 31.68]
class = Churn
(...)
(...)
(...)
(...)