EVALUATING ACCURACY OF CLASSIFIER

1) LOGISTIC REGRESSION (functions.Logistic)

=== Run information ===

Scheme:weka.classifiers.functions.Logistic -R 1.0E-8 -M -1

Relation: german_credit

Instances: 1000

Attributes: 21

checking_status

duration

credit_history

purpose

credit_amount

savings_status

employment

installment_commitment

personal_status

other_parties

residence_since

property_magnitude

age

other_payment_plans

housing

existing_credits

job

num_dependents

own_telephone

foreign_worker

class

Test mode:10-fold cross-validation

=== Classifier model (full training set) ===

Logistic Regression with ridge parameter of 1.0E-8

Coefficients...

Variable	Class good
checking_status=<0	-0.778
checking_status=0<=X<200	-0.4032
checking_status=>=200	0.1877
checking_status=no checking	0.9338
duration	-0.0279
credit_history=no credits/all paid	-0.8129
credit_history=all paid	-0.9562
credit_history=existing paid	-0.2268
credit_history=delayed previously	0.0403
credit_history=critical/other existing credit	0.6229
purpose=new car	-0.692
purpose=used car	0.9744
purpose=furniture/equipment	0.0996
purpose=radio/tv	0.1996
purpose=domestic appliance	-0.1692
purpose=repairs	-0.4756

purpose=education	-0.7283
purpose=vacation	0
purpose=retraining	1.3674
purpose=business	0.0481
purpose=other	0.7968
credit_amount	-0.0001
savings_status=<100	-0.4402
savings_status=100<=X<500	-0.0825
savings_status=500<=X<1000	-0.0641
savings_status=>=1000	0.8989
savings_status=no known savings	0.5065
employment=unemployed	-0.2934
employment=<1	-0.2265
employment=1<=X<4	-0.1106
employment=4<=X<7	0.5376
employment=>=7	-0.0168
installment_commitment	-0.3301
personal_status=male div/sep	-0.4923
personal_status=female div/dep/mar	-0.2168
personal_status=male single	0.3238
personal_status=male mar/wid	-0.1252
personal_status=female single	0
other_parties=none	-0.1798
other_parties=co applicant	-0.6158
other_parties=guarantor	0.7988
residence_since	-0.0048
property_magnitude=real estate	0.2572

property_magnitude=life insurance -0.0242

property_magnitude=car 0.0627

property_magnitude=no known property -0.4732

age 0.0145

other_payment_plans=bank -0.3273

other_payment_plans=stores -0.2041

other_payment_plans=none 0.3191

housing=rent -0.3498

housing=own 0.0939

housing=for free 0.3341

existing_credits -0.2721

job=unemp/unskilled non res 0.5095

job=unskilled resident -0.0265

job=skilled -0.0451

job=high qualif/self emp/mgmt 0.0301

num_dependents -0.2647

own_telephone 0.3

foreign_worker 1.3922

Intercept 3.1983

Odds Ratios...

Class

Variable good

==========

checking_status=<0 0.4593

checking_status=0<=X<200 0.6682

checking_status=>=200 1.2064

checking_status=no checking 2.5443

duration 0.9725

credit_history=no credits/all paid 0.4436

credit_history=all paid 0.3843

credit_history=existing paid 0.7971

credit_history=delayed previously 1.0411

credit_history=critical/other existing credit 1.8643

purpose=new car 0.5006

purpose=used car 2.6497

purpose=furniture/equipment 1.1047

purpose=radio/tv 1.2209

purpose=domestic appliance 0.8443

purpose=repairs 0.6215

purpose=education 0.4827

purpose=vacation 1

purpose=retraining 3.9251

purpose=business 1.0493

purpose=other 2.2184

credit_amount 0.9999

savings_status=<100 0.6439

savings_status=100<=X<500 0.9208

savings_status=500<=X<1000 0.9379

savings_status=>=1000 2.4569

savings_status=no known savings 1.6594

employment=unemployed 0.7457

employment=<1 0.7973

employment=1<=X<4 0.8953

employment=4<=X<7 1.7119

employment=>=7 0.9834

installment_commitment 0.7189

personal_status=male div/sep 0.6112

personal_status=female div/dep/mar 0.8051

personal_status=male single 1.3824

personal_status=male mar/wid 0.8823

personal_status=female single 1

other_parties=none 0.8354

other_parties=co applicant 0.5402

other_parties=guarantor 2.2229

residence_since 0.9952

property_magnitude=real estate 1.2933

property_magnitude=life insurance 0.9761

property_magnitude=car 1.0647

property_magnitude=no known property 0.623

age 1.0146

other_payment_plans=bank 0.7209

other_payment_plans=stores 0.8154

other_payment_plans=none 1.3758

housing=rent 0.7049

housing=own 1.0984

housing=for free 1.3967

existing_credits 0.7618

job=unemp/unskilled non res 1.6645

job=unskilled resident 0.9738

job=skilled 0.9559

job=high qualif/self emp/mgmt 1.0306

num_dependents 0.7675

own_telephone 1.3499

foreign_worker 4.0237

Time taken to build model: 0.06 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances	752	75.2 %
Incorrectly Classified Instances	248	24.8 %
Kappa statistic	0.375	
Mean absolute error	0.3098	
Root mean squared error	0.4087	
Relative absolute error	73.727 %	
Root relative squared error	89.1751 %	
Total Number of Instances	1000	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	ROC Area	Class
	0.864	0.51	0.798	0.864	0.83	0.785	good
	0.49	0.136	0.607	0.49	0.542	0.785	bad
Weighted Avg.	0.752	0.398	0.741	0.752	0.744	0.785	

=== Confusion Matrix ===

a b <-- classified as

605 95 | a = good

153 147 | b = bad

2)NAIVE BAYES ALGORITHM (bayes.NavieBayes)

=== Run information ===

Scheme:weka.classifiers.bayes.NaiveBayes

Relation: german_credit

Instances: 1000

Attributes: 21

- **checking_status**
- **duration**
- **credit_history**
- **purpose**
- **credit_amount**
- **savings_status**
- **employment**
- **installment_commitment**
- **personal_status**
- **other_parties**
- **residence_since**
- **property_magnitude**
- **age**

other_payment_plans

housing

existing_credits

job

num_dependents

own_telephone

foreign_worker

class

Test mode:10-fold cross-validation

=== Classifier model (full training set) ===

Naive Bayes Classifier

	Class	
Attribute	good	bad
	(0.7)	(0.3)
checking_status		
<0	140.0	136.0
0<=X<200	165.0	106.0
>=200	50.0	15.0
no checking	349.0	47.0
[total]	704.0	304.0
duration		
mean	19.1766	24.8129

std. dev.	10.9817	13.3608
weight sum	700	300
precision	2.125	2.125

credit_history

no credits/all paid	16.0	26.0
all paid	22.0	29.0
existing paid	362.0	170.0
delayed previously	61.0	29.0
critical/other existing credit	244.0	51.0
[total]	705.0	305.0

purpose

new car	146.0	90.0
used car	87.0	18.0
furniture/equipment	124.0	59.0
radio/tv	219.0	63.0
domestic appliance	9.0	5.0
repairs	15.0	9.0
education	29.0	23.0
vacation	1.0	1.0
retraining	9.0	2.0
business	64.0	35.0
other	8.0	6.0
[total]	711.0	311.0

credit_amount

mean	2985.6721	3938.1609
std. dev.	2399.7801	3529.4788
weight sum	700	300
precision	19.7543	19.7543

savings_status

<100	387.0	218.0
100<=X<500	70.0	35.0
500<=X<1000	53.0	12.0
>=1000	43.0	7.0
no known savings	152.0	33.0
[total]	705.0	305.0

employment

unemployed	40.0	24.0
<1	103.0	71.0
1<=X<4	236.0	105.0
4<=X<7	136.0	40.0
>=7	190.0	65.0
[total]	705.0	305.0

installment_commitment

mean	2.92	3.0967
std. dev.	1.1273	1.0866
weight sum	700	300
precision	1	1

personal_status

male div/sep	31.0	21.0
female div/dep/mar	202.0	110.0
male single	403.0	147.0
male mar/wid	68.0	26.0
female single	1.0	1.0
[total]	705.0	305.0

other_parties

none	636.0	273.0
co applicant	24.0	19.0
guarantor	43.0	11.0
[total]	703.0	303.0

residence_since

mean	2.8429	2.85
std. dev.	1.1076	1.0928
weight sum	700	300
precision	1	1

property_magnitude

real estate	223.0	61.0
life insurance	162.0	72.0
car	231.0	103.0
no known property	88.0	68.0
[total]	704.0	304.0

age

mean	36.1723	33.9267
std. dev.	11.4005	11.259
weight sum	700	300
precision	1.0769	1.0769

other_payment_plans

bank	83.0	58.0
stores	29.0	20.0
none	591.0	225.0
[total]	703.0	303.0

housing

rent	110.0	71.0
own	528.0	187.0
for free	65.0	45.0
[total]	703.0	303.0

existing_credits

mean	1.4243	1.3667
std. dev.	0.5843	0.5588
weight sum	700	300
precision	1	1

job

unemp/unskilled non res	16.0	8.0
unskilled resident	145.0	57.0

skilled	445.0	187.0
high qualif/self emp/mgmt	98.0	52.0
[total]	704.0	304.0

num_dependents

mean	1.1557	1.1533
std. dev.	0.3626	0.3603
weight sum	700	300
precision	1	1

own_telephone

none	410.0	188.0
yes	292.0	114.0
[total]	702.0	302.0

foreign_worker

yes	668.0	297.0
no	34.0	5.0
[total]	702.0	302.0

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 754 75.4 %

Incorrectly Classified Instances 246 24.6 %

Kappa statistic 0.3813

Mean absolute error 0.2936

Root mean squared error 0.4201

Relative absolute error 69.8801 %

Root relative squared error 91.6718 %

Total Number of Instances 1000

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	ROC Area	Class
	0.864	0.503	0.8	0.864	0.831	0.787	good
	0.497	0.136	0.611	0.497	0.548	0.787	bad
Weighted Avg.	0.754	0.393	0.743	0.754	0.746	0.787	

=== Confusion Matrix ===

a	b	<-- classified as
605	95	a = good
151	149	b = bad

3)J48 ALGORITHM (trees.J48)

=== Run information ===

Scheme:weka.classifiers.trees.J48 -C 0.25 -M 2

Relation: german_credit

Instances: 1000

Attributes: 21

- **checking_status**
- **duration**
- **credit_history**
- **purpose**
- **credit_amount**
- **savings_status**
- **employment**
- **installment_commitment**
- **personal_status**
- **other_parties**
- **residence_since**
- **property_magnitude**
- **age**
- **other_payment_plans**
- **housing**
- **existing_credits**
- **job**
- **num_dependents**
- **own_telephone**
- **foreign_worker**
- **class**

Test mode:10-fold cross-validation

=== Classifier model (full training set) ===

J48 pruned tree

----

checking_status = <0

| foreign_worker = yes

| | duration <= 11

| | | existing_credits <= 1

| | | | property_magnitude = real estate: good (8.0/1.0)

| | | | property_magnitude = life insurance

| | | | | own_telephone = none: bad (2.0)

| | | | | own_telephone = yes: good (4.0)

| | | | property_magnitude = car: good (2.0/1.0)

| | | | property_magnitude = no known property: bad (3.0)

| | | existing_credits > 1: good (14.0)

| | duration > 11

| | | job = unemp/unskilled non res: bad (5.0/1.0)

| | | job = unskilled resident

| | | | purpose = new car

| | | | | own_telephone = none: bad (10.0/2.0)

| | | | | own_telephone = yes: good (2.0)

| | | | purpose = used car: bad (1.0)

| | | | purpose = furniture/equipment

| | | | | employment = unemployed: good (0.0)

| | | | | employment = <1: bad (3.0)

| | | | | employment = 1<=X<4: good (4.0)

| | | | | employment = 4<=X<7: good (1.0)

| | | | | employment = >=7: good (2.0)

| | | | purpose = radio/tv

| | | | | existing_credits <= 1: bad (10.0/3.0)

| | | | | existing_credits > 1: good (2.0)

| | | | purpose = domestic appliance: bad (1.0)

| | | | purpose = repairs: bad (1.0)

| | | | purpose = education: bad (1.0)

| | | | purpose = vacation: bad (0.0)

| | | | purpose = retraining: good (1.0)

| | | | purpose = business: good (3.0)

| | | | purpose = other: good (1.0)

| | | job = skilled

| | | | other_parties = none

| | | | | duration <= 30

| | | | | | savings_status = <100

| | | | | | | credit_history = no credits/all paid: bad (8.0/1.0)

| | | | | | | credit_history = all paid: bad (6.0)

| | | | | | | credit_history = existing paid

| | | | | | | | own_telephone = none

| | | | | | | | | existing_credits <= 1

| | | | | | | | | | property_magnitude = real estate

| | | | | | | | | | | age <= 26: bad (5.0)

| | | | | | | | | | | age > 26: good (2.0)

| | | | | | | | | | property_magnitude = life insurance: bad (7.0/2.0)

| | | | | | | | | | property_magnitude = car

| | | | | | | | | | | credit_amount <= 1386: bad (3.0)

| | | | | | | | | | | credit_amount > 1386: good (11.0/1.0)

| | | | | | | | | | property_magnitude = no known property: good (2.0)

| | | | | | | | | existing_credits > 1: bad (3.0)

| | | | | | | | own_telephone = yes: bad (5.0)

| | | | | | | credit_history = delayed previously: bad (4.0)

| | | | | | | credit_history = critical/other existing credit: good (14.0/4.0)

| | | | | | savings_status = 100<=X<500

| | | | | | | credit_history = no credits/all paid: good (0.0)

| | | | | | | credit_history = all paid: good (1.0)

| | | | | | | credit_history = existing paid: bad (3.0)

| | | | | | | credit_history = delayed previously: good (0.0)

| | | | | | | credit_history = critical/other existing credit: good (2.0)

| | | | | | savings_status = 500<=X<1000: good (4.0/1.0)

| | | | | | savings_status = >=1000: good (4.0)

| | | | | | savings_status = no known savings

| | | | | | | existing_credits <= 1

| | | | | | | | own_telephone = none: bad (9.0/1.0)

| | | | | | | | own_telephone = yes: good (4.0/1.0)

| | | | | | | existing_credits > 1: good (2.0)

| | | | | duration > 30: bad (30.0/3.0)

| | | | other_parties = co applicant: bad (7.0/1.0)

| | | | other_parties = guarantor: good (12.0/3.0)

| | | job = high qualif/self emp/mgmt: good (30.0/8.0)

| foreign_worker = no: good (15.0/2.0)

checking_status = 0<=X<200

| credit_amount <= 9857

| | savings_status = <100

| | | other_parties = none

| | | | duration <= 42

| | | | | personal_status = male div/sep: bad (8.0/2.0)

| | | | | personal_status = female div/dep/mar

| | | | | | purpose = new car: bad (5.0/1.0)

| | | | | | purpose = used car: bad (1.0)

| | | | | | purpose = furniture/equipment

| | | | | | | duration <= 10: bad (3.0)

| | | | | | | duration > 10

| | | | | | | | duration <= 21: good (6.0/1.0)

| | | | | | | | duration > 21: bad (2.0)

| | | | | | purpose = radio/tv: good (8.0/2.0)

| | | | | | purpose = domestic appliance: good (0.0)

| | | | | | purpose = repairs: good (1.0)

| | | | | | purpose = education: good (4.0/2.0)

| | | | | | purpose = vacation: good (0.0)

| | | | | | purpose = retraining: good (0.0)

| | | | | | purpose = business

| | | | | | | residence_since <= 2: good (3.0)

| | | | | | | residence_since > 2: bad (2.0)

| | | | | | purpose = other: good (0.0)

| | | | | personal_status = male single: good (52.0/15.0)

| | | | | personal_status = male mar/wid

| | | | | | duration <= 10: good (6.0)

| | | | | | duration > 10: bad (10.0/3.0)

| | | | | personal_status = female single: good (0.0)

| | | | duration > 42: bad (7.0)

| | | other_parties = co applicant: good (2.0)

| | | other_parties = guarantor

| | | | purpose = new car: bad (2.0)

| | | | purpose = used car: good (0.0)

| | | | purpose = furniture/equipment: good (0.0)

| | | | purpose = radio/tv: good (18.0/1.0)

| | | | purpose = domestic appliance: good (0.0)

| | | | purpose = repairs: good (0.0)

| | | | purpose = education: good (0.0)

| | | | purpose = vacation: good (0.0)

| | | | purpose = retraining: good (0.0)

| | | | purpose = business: good (0.0)

| | | | purpose = other: good (0.0)

| | savings_status = 100<=X<500

| | | purpose = new car: bad (15.0/5.0)

| | | purpose = used car: good (3.0)

| | | purpose = furniture/equipment: bad (4.0/1.0)

| | | purpose = radio/tv: bad (8.0/2.0)

| | | purpose = domestic appliance: good (0.0)

| | | purpose = repairs: good (2.0)

| | | purpose = education: good (0.0)

| | | purpose = vacation: good (0.0)

| | | purpose = retraining: good (0.0)

| | | purpose = business

| | | | housing = rent

| | | | | existing_credits <= 1: good (2.0)

| | | | | existing_credits > 1: bad (2.0)

| | | | housing = own: good (6.0)

| | | | housing = for free: bad (1.0)

| | | purpose = other: good (1.0)

| | savings_status = 500<=X<1000: good (11.0/3.0)

| | savings_status = >=1000: good (13.0/3.0)

| | savings_status = no known savings: good (41.0/5.0)

| credit_amount > 9857: bad (20.0/3.0)

checking_status = >=200: good (63.0/14.0)

checking_status = no checking: good (394.0/46.0)

Number of Leaves : 103

Size of the tree : 140

Time taken to build model: 0.02 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances	705	70.5 %
Incorrectly Classified Instances	295	29.5 %
Kappa statistic	0.2467	
Mean absolute error	0.3467	
Root mean squared error	0.4796	
Relative absolute error	82.5233 %	
Root relative squared error	104.6565 %	
Total Number of Instances	1000	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	ROC Area	Class
	0.84	0.61	0.763	0.84	0.799	0.639	good
	0.39	0.16	0.511	0.39	0.442	0.639	bad
Weighted Avg.	0.705	0.475	0.687	0.705	0.692	0.639	

=== Confusion Matrix ===

a	b	<-- classified as
588	112	a = good
183	117	b = bad

4) K-NEAREST NEIGHBOUR (lazy.IBK)

=== Run information ===

Scheme:weka.classifiers.lazy.IBk -K 1 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""

Relation: german_credit

Instances: 1000

Attributes: 21

- **checking_status**
- **duration**
- **credit_history**
- **purpose**
- **credit_amount**
- **savings_status**
- **employment**
- **installment_commitment**
- **personal_status**
- **other_parties**
- **residence_since**
- **property_magnitude**
- **age**
- **other_payment_plans**
- **housing**
- **existing_credits**
- **job**
- **num_dependents**
- **own_telephone**
- **foreign_worker**
- **class**

Test mode:10-fold cross-validation

=== Classifier model (full training set) ===

IB1 instance-based classifier

using 1 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances	**720**	**72**	**%**
Incorrectly Classified Instances	**280**	**28**	**%**
Kappa statistic	**0.3243**		
Mean absolute error	**0.2805**		
Root mean squared error	**0.5286**		
Relative absolute error	**66.7546 %**		
Root relative squared error	**115.3422 %**		
Total Number of Instances	**1000**		

=== Detailed Accuracy By Class ===

	TP Rate	**FP Rate**	**Precision**	**Recall**	**F-Measure**	**ROC Area**	**Class**
	0.81	**0.49**	**0.794**	**0.81**	**0.802**	**0.66**	**good**
	0.51	**0.19**	**0.535**	**0.51**	**0.522**	**0.66**	**bad**
Weighted Avg.	**0.72**	**0.4**	**0.716**	**0.72**	**0.718**	**0.66**	

=== Confusion Matrix ===

a b <-- classified as

567 133 | a = good

147 153 | b = bad

5)SMO ALGORITHM (functions.SMO)

=== Run information ===

Scheme:weka.classifiers.functions.SMO -C 1.0 -L 0.001 -P 1.0E-12 -N 0 -V -1 -W 1 -K "weka.classifiers.functions.supportVector.PolyKernel -C 250007 -E 1.0"

Relation: german_credit

Instances: 1000

Attributes: 21

checking_status

duration

credit_history

purpose

credit_amount

savings_status

employment

installment_commitment

personal_status

other_parties

residence_since

property_magnitude

age

other_payment_plans

housing

existing_credits

job

num_dependents

own_telephone

foreign_worker

class

Test mode:10-fold cross-validation

=== Classifier model (full training set) ===

SMO

Kernel used:

Linear Kernel: K(x,y) = <x,y>

Classifier for classes: good, bad

BinarySMO

Machine linear: showing attribute weights, not support vectors.

0.6805 * (normalized) checking_status=<0

+ 0.3347 * (normalized) checking_status=0<=X<200

+ -0.4616 * (normalized) checking_status=>=200

+ -0.5537 * (normalized) checking_status=no checking

+ 1.6987 * (normalized) duration

+ 0.5398 * (normalized) credit_history=no credits/all paid

+ 0.6015 * (normalized) credit_history=all paid

+ -0.109 * (normalized) credit_history=existing paid

+ -0.3182 * (normalized) credit_history=delayed previously

+ -0.7141 * (normalized) credit_history=critical/other existing credit

+ 0.5673 * (normalized) purpose=new car

+ -0.5615 * (normalized) purpose=used car

+ -0.1464 * (normalized) purpose=furniture/equipment

+ -0.0798 * (normalized) purpose=radio/tv

+ 0.5456 * (normalized) purpose=domestic appliance

+ 0 * (normalized) purpose=repairs

+ 0.4441 * (normalized) purpose=education

+ -0.3951 * (normalized) purpose=retraining

+ -0.0823 * (normalized) purpose=business

+ -0.2919 * (normalized) purpose=other

+ 1.1473 * (normalized) credit_amount

+ 0.4056 * (normalized) savings_status=<100

+ 0.115 * (normalized) savings_status=100<=X<500

+ 0.1378 * (normalized) savings_status=500<=X<1000

+ -0.3775 * (normalized) savings_status=>=1000

+ -0.2809 * (normalized) savings_status=no known savings

+ 0.2887 * (normalized) employment=unemployed

+ 0.1663 * (normalized) employment=<1

+ 0.0021 * (normalized) employment=1<=X<4

+ -0.3348 * (normalized) employment=4<=X<7

+ -0.1222 * (normalized) employment=>=7

+ 0.6503 * (normalized) installment_commitment

+ 0.3335 * (normalized) personal_status=male div/sep

+ 0.1177 * (normalized) personal_status=female div/dep/mar

+ -0.3697 * (normalized) personal_status=male single

+ -0.0815 * (normalized) personal_status=male mar/wid

+ 0.0514 * (normalized) other_parties=none

+ 0.5697 * (normalized) other_parties=co applicant

+ -0.6211 * (normalized) other_parties=guarantor

+ -0.0001 * (normalized) residence_since

+ -0.2247 * (normalized) property_magnitude=real estate

+ -0.0544 * (normalized) property_magnitude=life insurance

+ -0.0795 * (normalized) property_magnitude=car

+ 0.3586 * (normalized) property_magnitude=no known property

+ -0.4191 * (normalized) age

+ 0.0697 * (normalized) other_payment_plans=bank

+ 0.159 * (normalized) other_payment_plans=stores

+ -0.2287 * (normalized) other_payment_plans=none

+ 0.3271 * (normalized) housing=rent

+ -0.0702 * (normalized) housing=own

+ -0.257 * (normalized) housing=for free

+ 0.4503 * (normalized) existing_credits

+ -0.2026 * (normalized) job=unemp/unskilled non res

+ 0.1501 * (normalized) job=unskilled resident

+ 0.1027 * (normalized) job=skilled

+ -0.0502 * (normalized) job=high qualif/self emp/mgmt

+ 0.0198 * (normalized) num_dependents

+ -0.1394 * (normalized) own_telephone

+ -0.9888 * (normalized) foreign_worker

- 1.5398

Number of kernel evaluations: 436644 (90.558% cached)

Time taken to build model: 0.11 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances	**751**	**75.1 %**
Incorrectly Classified Instances	**249**	**24.9 %**
Kappa statistic	**0.3654**	
Mean absolute error	**0.249**	
Root mean squared error	**0.499**	
Relative absolute error	**59.2607 %**	
Root relative squared error	**108.8905 %**	
Total Number of Instances	**1000**	

=== Detailed Accuracy By Class ===

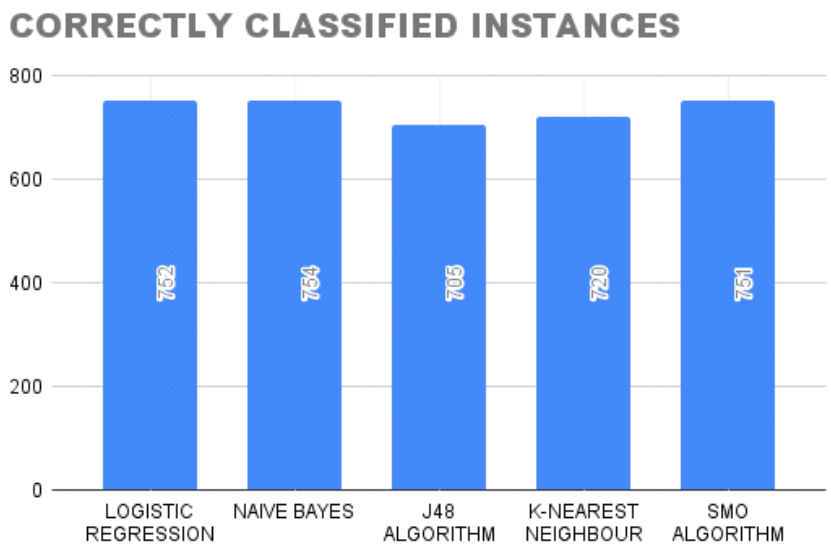
	TP Rate	**FP Rate**	**Precision**	**Recall**	**F-Measure**	**ROC Area**	**Class**
	0.871	**0.53**	**0.793**	**0.871**	**0.83**	**0.671**	**good**
	0.47	**0.129**	**0.61**	**0.47**	**0.531**	**0.671**	**bad**
Weighted Avg.	**0.751**	**0.41**	**0.738**	**0.751**	**0.741**	**0.671**	

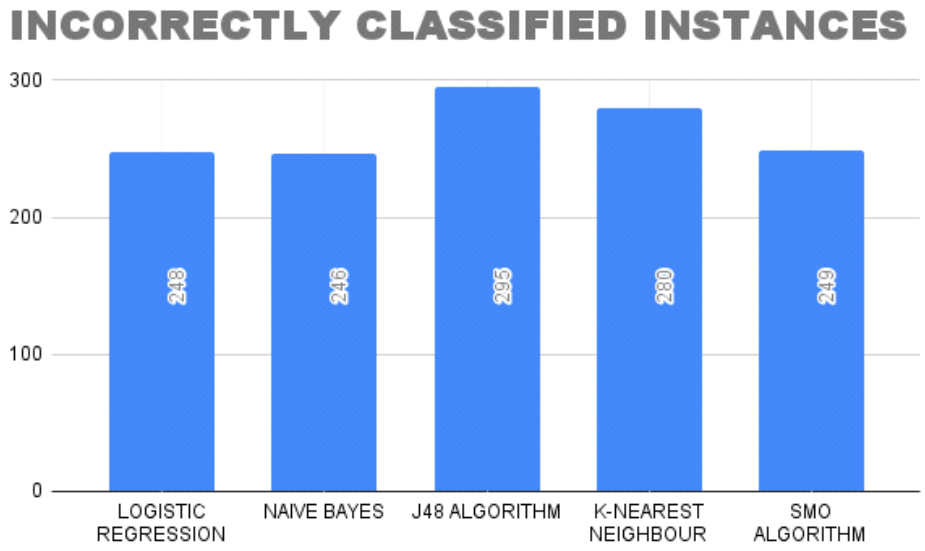
=== Confusion Matrix ===

a	**b**	**<-- classified as**

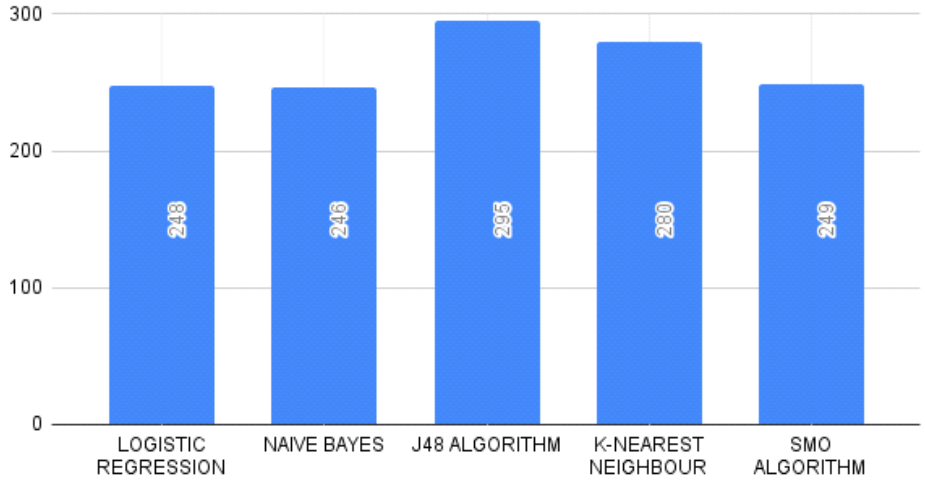
610 90 | a = good

159 141 | b = bad

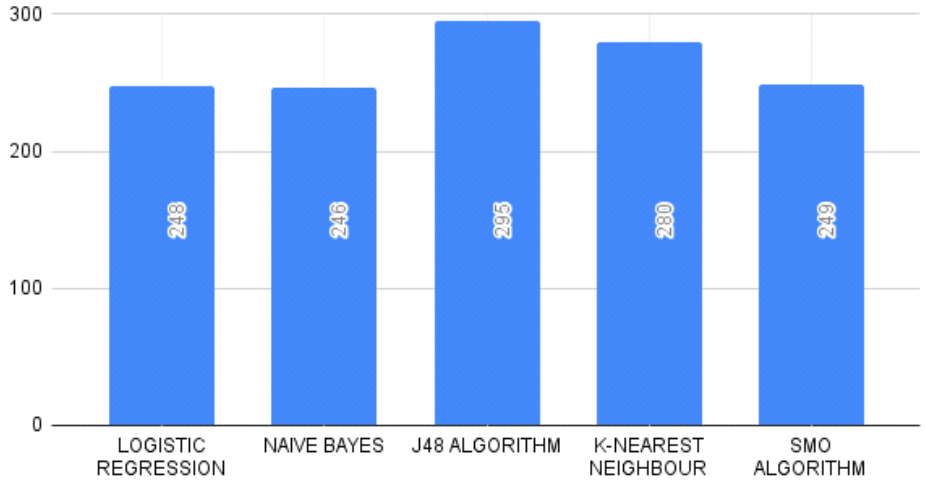




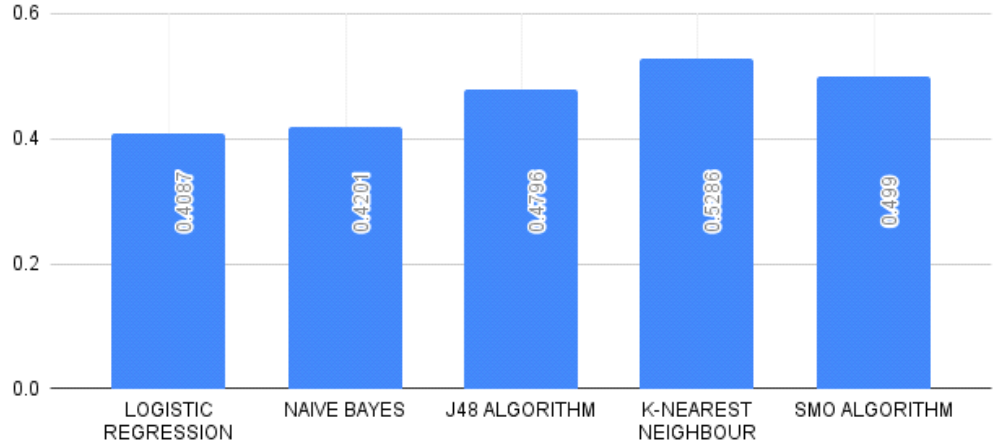
INCORRECTLY CLASSIFIED INSTANCES



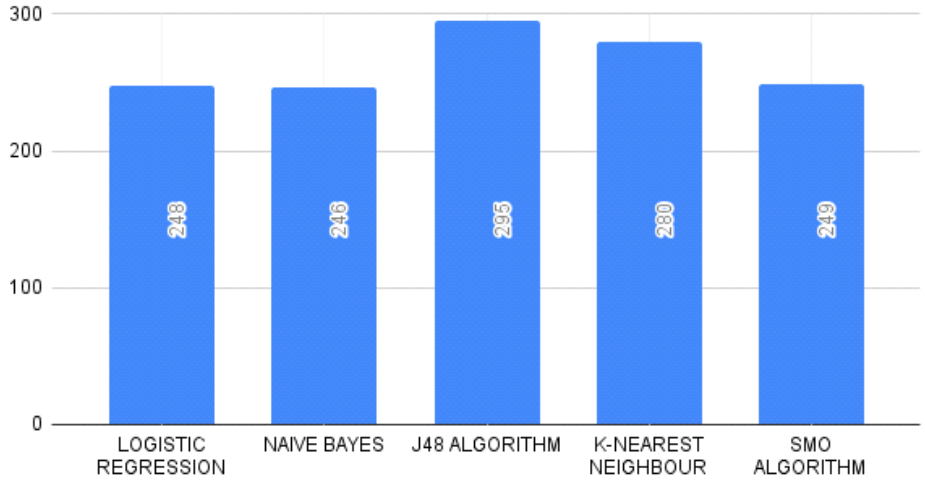
INCORRECTLY CLASSIFIED INSTANCES

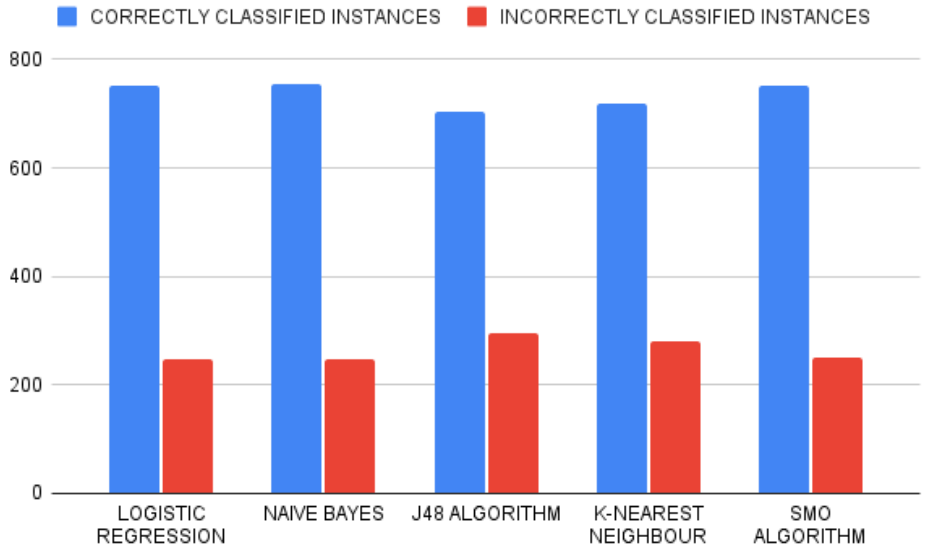


ROOT MEAN SQUARED ERROR



INCORRECTLY CLASSIFIED INSTANCES





INCORRECTLY CLASSIFIED INSTANCES