



LAMPIRAN-LAMPIRAN

Hasil klasifikasi yes naive bayes:

No	age	job	marital	education	default	balance	housing	loan	contact	day	month	duration	campaign	pdays	previous	poutcome	$P(X C1="yes")$
1	0.031302	0.333333	0.333333	0.5	1	0.000527	0.5	1	0.333333	0.058012	0.166667	0.001599451	0.205869	0.0623889	0.260445	0.833333	3.95453E-15
2	0.029019	0.166667	0.5	0.5	1	0.000729	0.5	1	0.666667	0.192557	0.333333	0.002041313	0.214937	0.11550496	0.511092	0.833333	2.44159E-13
3	0.02255	0.333333	0.5	0.5	1	0.000825	0.5	1	0.666667	0.073067	0.166667	0.002323307	0.255382	0.0623889	0.232766	0.833333	2.71205E-14
4	0.027821	0.333333	0.166667	0.333333	1	0.000262	0.5	1	0.666667	0.155937	0.333333	0.001877192	1.15445	0.06872931	1.255671	0.833333	2.18711E-13
5	0.019781	0.166667	0.5	0.333333	1	0.000343	0.5	1	0.666667	0.060752	0.333333	0.001147715	0.214937	0.04625749	0.232766	0.833333	1.6871E-15
6	0.020888	0	0.333333	0.5	1	0.000278	0.5	1	0	0.058012	0.166667	0.001683927	0.255382	0.05348525	0.260445	0.833333	0
7	0.05691	0.333333	0.333333	0.166667	1	0.000691	0.5	1	0.333333	0.081732	0.166667	0.001946702	0.255382	0.04585225	0.260445	0.833333	4.9061E-15
8	0.027821	0.166667	0.5	0.5	1	0.000265	0.5	1	0.666667	0.058012	0.166667	0.001765222	0.255382	0.048338	0.40823	0.833333	4.40083E-15
9	0.026737	0.333333	0.5	0.5	1	0.000439	0.5	1	0.666667	0.145989	0.166667	0.00123135	0.255382	0.25724204	0.232766	0.166667	1.49439E-14
10	0.044423	0	0.166667	0.333333	1	0.000614	0.5	1	0	0.408249	0.166667	0.002519192	1.23E+13	0.05051209	0.260445	0.833333	0

Hasil Klasifikasi no naive bayes:

No	age	job	marital	education	default	balance	housing	loan	contact	day	month	duration	campaign	pdays	previous	poutcome	$P(X C1="no")$
1	0.148968	0	0	0.75	1	7.123626	0.5	1	0	0.126857	0	6.35057E+40	0.053862	0.11925463	0.362309	1	0
2	0.028972	0.25	0.5	0.75	1	0.000557	0.5	1	0.5	0.066225	0.25	0.006887151	0.051333	0.19532836	0.767008	1	1.32601E-13
3	0.059546	0.25	0.5	0.75	1	0.000612	0.5	1	0.5	0.058736	0.25	0.007874897	0.057358	0.11925463	0.282166	1	7.61989E-14
4	0.02812	0.25	0.25	0.25	1	0.007963	0.5	1	0.5	0.061748	0.25	2.45495E+47	0.048563	0.11239848	2.67712	1	1.93761E+37
5	0.031784	0.25	0.5	0.25	1	0.000659	0.5	1	0.5	0.153402	0.25	722.9706449	0.051333	3.28476522	0.282166	1	8.62922E-08
6	0.026166	0.25	0	0.75	1	0.001456	0.5	1	0.5	0.126857	0.5	0.016556808	0.057358	0.17012341	0.362309	1	0
7	0.610135	0	0	0	1	0.000538	0.5	1	0	0.057	0	0.007462222	0.057358	1.64625944	0.362309	1	0
8	0.02812	0	0.5	0.75	1	0.002547	0.5	1	0.5	0.126857	0.25	0.011526047	0.057358	0.33281167	0.767008	1	0
9	0.027406	0.25	0.5	0.75	1	1.925079	0.5	1	0.5	1.015421	0.5	1.43184E+28	0.057358	1351960361	0.282166	0	0
10	0.042662	0.25	0.25	0.25	1	0.000507	0.5	1	0.5	0.092117	0.5	0.010684267	0.147318	0.22873789	0.362309	1	2.02926E-13

education	default	balance	housing	loan	contact	day	month	duration	campaign	pdays	previous	outcome	y	Klasifikasi	Kriteria
secondary	no	4189	no	no	telephone	14	jul	897	2	7	1	unknown	yes	yes	TP
secondary	no	171	no	no	cellular	27	aug	81	3	2	4	unknown	no	yes	FP
secondary	no	42	no	no	cellular	21	nov	40	1	7	2	unknown	no	no	TN
tertiary	no	2536	yes	no	cellular	26	aug	958	6	6	5	unknown	yes	no	FN
tertiary	no	1235	no	no	cellular	13	aug	354	3	15	2	unknown	yes	no	FN
secondary	no	1811	yes	no	unknown	14	may	150	1	9	1	unknown	no	no	TN
primary	no	229	no	no	telephone	22	oct	97	1	14	1	unknown	yes	yes	TP
secondary	no	2089	yes	no	cellular	14	nov	132	1	11	0	unknown	yes	yes	TP
secondary	no	3935	yes	no	cellular	6	may	765	1	30	2	failure	yes	yes	TP
tertiary	no	363	yes	no	unknown	30	may	16	18	10	1	unknown	no	no	TN

KRITERIA	JUMLAH
TP	4
FP	1
TN	3
FN	2

Detail	Hasil
Precision	80%
Recall	67%
Accuracy	70%

Perhitungan manual KNN :

age	job	marital	education	balance	housing	duration	campaign	pdays	previous	y
33	8	20	22	4789	1	220	1	339	4	0

age	job	marital	education	balance	housing	duration	campaign	pdays	previous	y	kriteria	FN
68	7	30	22	4189	0	897	2	7	1	yes	yes	TP
31	3	20	22	171	0	81	3	2	4	no	yes	FP
59	1	20	22	42	0	40	1	7	2	no	yes	FP
32	1	10	23	2536	1	958	6	6	5	yes	no	FN
49	3	20	23	1235	0	354	3	15	2	yes	yes	TP
42	5	30	22	1811	1	150	1	9	1	no	no	TN
78	7	30	21	229	0	97	1	14	1	yes	no	FN
32	6	20	22	2089	1	132	1	11	0	yes	no	FN
33	1	20	22	3935	1	765	1	30	2	yes	no	FN
23	8	10	23	363	1	16	18	10	1	no	yes	FP

No	Ranking	Euclidian Distance	Nama
1	1	964.3080421	yes
2	9	4632.369588	no
3	10	4762.075493	no
4	3	2394.100875	yes
5	6	3571.293743	yes
6	5	2997.079078	no
7	8	4573.45504	yes
8	4	2721.27709	yes
9	2	1059.186008	yes
10	7	4442.953072	no

k=3		
Ranking	Euclidian Distance	Nama
1	964.3080421	yes
2	1059.186008	yes
3	2394.100875	yes

KRITERIA	JUMLAH
TP	2
FP	3
TN	1
FN	4
Detail	Hasil
Precision	40%
Recall	33%
Accuracy	30%

Naïve bayes Data bank marketing :

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) y

Start Stop

Result list (right-click for options)

06:30:40 - bayes.NaiveBayes

Time taken to build model: 0.04 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	3916	86.618 %
Incorrectly Classified Instances	605	13.382 %
Kappa statistic	0.324	
Mean absolute error	0.1721	
Root mean squared error	0.3245	
Relative absolute error	84.2811 %	
Root relative squared error	101.6246 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.929	0.614	0.921	0.929	0.925	0.324	0.799	0.958	no
	0.386	0.071	0.414	0.386	0.399	0.324	0.799	0.357	yes
Weighted Avg.	0.866	0.552	0.862	0.866	0.864	0.324	0.799	0.889	

=== Confusion Matrix ===

```

a   b   <-- classified as
3715 285 | a = no
 320 201 | b = yes

```

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) y

Start Stop

Result list (right-click for options)

06:30:40 - bayes.NaiveBayes

06:32:26 - bayes.NaiveBayes

Time taken to build model: 0.01 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	3927	86.8613 %
Incorrectly Classified Instances	594	13.1387 %
Kappa statistic	0.3288	
Mean absolute error	0.1691	
Root mean squared error	0.3226	
Relative absolute error	82.8594 %	
Root relative squared error	101.0267 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.932	0.616	0.921	0.932	0.926	0.329	0.817	0.967	no
	0.384	0.068	0.423	0.384	0.402	0.329	0.817	0.365	yes
Weighted Avg.	0.869	0.553	0.863	0.869	0.866	0.329	0.817	0.897	

=== Confusion Matrix ===

```

a   b   <-- classified as
3727 273 | a = no
 321 200 | b = yes

```

Test options

Use training set

Supplied test set Set...

Cross-validation Folds

Percentage split %

More options...

(Nom)y

Start Stop

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:32:51 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0.01 seconds

=== Stratified cross-validation ===

=== Summary ===

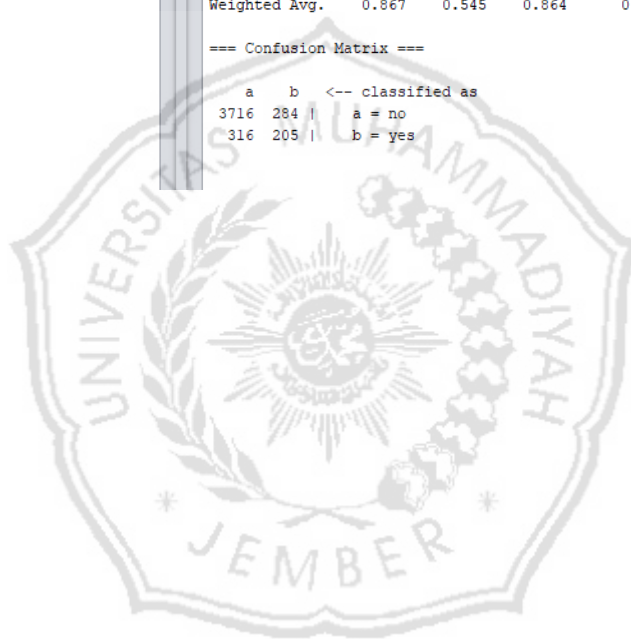
Correctly Classified Instances	3921	86.7286 %
Incorrectly Classified Instances	600	13.2714 %
Kappa statistic	0.3313	
Mean absolute error	0.1701	
Root mean squared error	0.323	
Relative absolute error	83.3324 %	
Root relative squared error	101.1406 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.929	0.607	0.922	0.929	0.925	0.332	0.809	0.962	no
	0.393	0.071	0.419	0.393	0.406	0.332	0.809	0.362	yes
Weighted Avg.	0.867	0.545	0.864	0.867	0.865	0.332	0.809	0.893	

=== Confusion Matrix ===

a	b	<-- classified as
3716	284	a = no
316	205	b = yes



Test options

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) y

Start Stop

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0.02 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	3922	86.7507 %
Incorrectly Classified Instances	599	13.2493 %
Kappa statistic	0.3296	
Mean absolute error	0.1699	
Root mean squared error	0.3231	
Relative absolute error	83.2648 %	
Root relative squared error	101.1735 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.930	0.610	0.921	0.930	0.925	0.330	0.811	0.964	no
	0.390	0.070	0.419	0.390	0.404	0.330	0.811	0.362	yes
Weighted Avg.	0.868	0.548	0.863	0.868	0.865	0.330	0.811	0.894	

=== Confusion Matrix ===

a	b	<-- classified as
3719	281	a = no
318	203	b = yes

Test options

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) y

Start Stop

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes
- 06:33:38 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	3918	86.6622 %
Incorrectly Classified Instances	603	13.3378 %
Kappa statistic	0.3262	
Mean absolute error	0.1696	
Root mean squared error	0.3229	
Relative absolute error	83.0895 %	
Root relative squared error	101.1322 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.929	0.612	0.921	0.929	0.925	0.326	0.813	0.965	no
	0.388	0.071	0.416	0.388	0.401	0.326	0.813	0.365	yes
Weighted Avg.	0.867	0.550	0.863	0.867	0.865	0.326	0.813	0.896	

=== Confusion Matrix ===

a	b	<-- classified as
3716	284	a = no
319	202	b = yes

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) y

Start Stop

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes
- 06:33:38 - bayes.NaiveBayes
- 06:33:59 - bayes.NaiveBayes

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	3917	86.6401 %
Incorrectly Classified Instances	604	13.3599 %
Kappa statistic	0.321	
Mean absolute error	0.1697	
Root mean squared error	0.3231	
Relative absolute error	83.1584 %	
Root relative squared error	101.1881 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.930	0.620	0.920	0.930	0.925	0.321	0.812	0.965	no
	0.380	0.070	0.413	0.380	0.396	0.321	0.812	0.364	yes
Weighted Avg.	0.866	0.557	0.862	0.866	0.864	0.321	0.812	0.896	

=== Confusion Matrix ===

```

a   b   <-- classified as
3719 281 | a = no
 323 198 | b = yes

```

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) y

Start Stop

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes
- 06:33:38 - bayes.NaiveBayes
- 06:33:59 - bayes.NaiveBayes
- 06:34:23 - bayes.NaiveBayes

Time taken to build model: 0.02 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	3925	86.8171 %
Incorrectly Classified Instances	596	13.1829 %
Kappa statistic	0.3312	
Mean absolute error	0.1689	
Root mean squared error	0.3218	
Relative absolute error	82.7489 %	
Root relative squared error	100.7801 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.931	0.610	0.921	0.931	0.926	0.332	0.811	0.964	no
	0.390	0.070	0.422	0.390	0.405	0.332	0.811	0.365	yes
Weighted Avg.	0.868	0.548	0.864	0.868	0.866	0.332	0.811	0.895	

=== Confusion Matrix ===

```

a   b   <-- classified as
3722 278 | a = no
 318 203 | b = yes

```


Test options

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) y

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes
- 06:33:38 - bayes.NaiveBayes
- 06:33:59 - bayes.NaiveBayes
- 06:34:23 - bayes.NaiveBayes
- 06:34:44 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

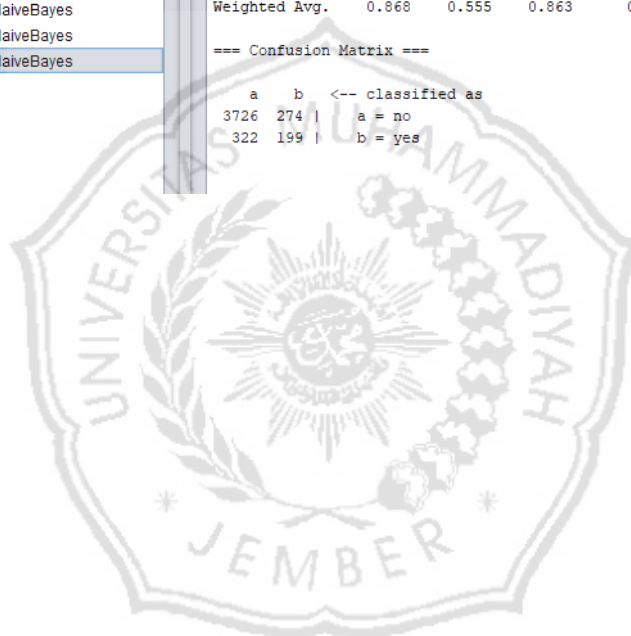
Correctly Classified Instances	3925	86.8171 %
Incorrectly Classified Instances	596	13.1829 %
Kappa statistic	0.3265	
Mean absolute error	0.1692	
Root mean squared error	0.323	
Relative absolute error	82.9177 %	
Root relative squared error	101.1442 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Cl
	0.932	0.618	0.920	0.932	0.926	0.327	0.812	0.965	no
	0.382	0.069	0.421	0.382	0.400	0.327	0.812	0.361	ye
Weighted Avg.	0.868	0.555	0.863	0.868	0.865	0.327	0.812	0.895	

=== Confusion Matrix ===

a	b	<-- classified as
3726	274	a = no
322	199	b = yes



Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) y

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes
- 06:33:38 - bayes.NaiveBayes
- 06:33:59 - bayes.NaiveBayes
- 06:34:23 - bayes.NaiveBayes
- 06:34:44 - bayes.NaiveBayes
- 06:35:09 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	3924	86.795 %
Incorrectly Classified Instances	597	13.205 %
Kappa statistic	0.3364	
Mean absolute error	0.1694	
Root mean squared error	0.3229	
Relative absolute error	83.0303 %	
Root relative squared error	101.1272 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
Weighted Avg.	0.399	0.071	0.423	0.399	0.411	0.337	0.811	0.363	yes

=== Confusion Matrix ===

a	b	<-- classified as
3716	284	a = no
313	208	b = yes

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) y

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes
- 06:33:38 - bayes.NaiveBayes
- 06:33:59 - bayes.NaiveBayes
- 06:34:23 - bayes.NaiveBayes
- 06:34:44 - bayes.NaiveBayes
- 06:35:09 - bayes.NaiveBayes
- 06:35:37 - bayes.NaiveBayes

Classifier output

=== Evaluation on training set ===

Time taken to test model on training data: 0.03 seconds

=== Summary ===

Correctly Classified Instances	3934	87.0161 %
Incorrectly Classified Instances	587	12.9839 %
Kappa statistic	0.343	
Mean absolute error	0.1675	
Root mean squared error	0.3214	
Relative absolute error	82.0975 %	
Root relative squared error	100.6575 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
Weighted Avg.	0.401	0.069	0.432	0.401	0.416	0.343	0.817	0.371	yes

=== Confusion Matrix ===

a	b	<-- classified as
3725	275	a = no
312	209	b = yes

KNN data bank marketing :

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) y

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes
- 06:33:38 - bayes.NaiveBayes
- 06:33:59 - bayes.NaiveBayes
- 06:34:23 - bayes.NaiveBayes
- 06:34:44 - bayes.NaiveBayes
- 06:35:09 - bayes.NaiveBayes
- 06:35:37 - bayes.NaiveBayes
- 06:36:20 - lazy.IBk
- 06:36:31 - lazy.IBk

Classifier output

Time taken to build model: 0.02 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	3973	87.8788 %
Incorrectly Classified Instances	548	12.1212 %
Kappa statistic	0.1252	
Mean absolute error	0.1607	
Root mean squared error	0.3188	
Relative absolute error	78.7205 %	
Root relative squared error	99.8399 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
no	0.980	0.894	0.894	0.980	0.935	0.158	0.679	0.926	no
yes	0.106	0.021	0.401	0.106	0.167	0.158	0.679	0.226	yes
Weighted Avg.	0.879	0.794	0.837	0.879	0.846	0.158	0.679	0.845	

=== Confusion Matrix ===

a	b	<-- classified as
3918	82	a = no
466	55	b = yes

Test options

Use training set

Supplied test set Set...

Cross-validation Folds

Percentage split %

More options...

(Nom) y

Start Stop

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes
- 06:33:38 - bayes.NaiveBayes
- 06:33:59 - bayes.NaiveBayes
- 06:34:23 - bayes.NaiveBayes
- 06:34:44 - bayes.NaiveBayes
- 06:35:09 - bayes.NaiveBayes
- 06:35:37 - bayes.NaiveBayes
- 06:36:20 - lazy.IBk
- 06:36:31 - lazy.IBk
- 06:37:06 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances	3983	88.1 %
Incorrectly Classified Instances	538	11.9 %
Kappa statistic	0.1495	
Mean absolute error	0.1561	
Root mean squared error	0.3121	
Relative absolute error	76.4846 %	
Root relative squared error	97.7418 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Cl
	0.980	0.877	0.896	0.980	0.936	0.186	0.700	0.929	no
	0.123	0.020	0.441	0.123	0.192	0.186	0.700	0.246	yes
Weighted Avg.	0.881	0.778	0.843	0.881	0.850	0.186	0.700	0.851	

=== Confusion Matrix ===

	a	b	<-- classified as
3919	81		a = no
457	64		b = yes

Test options

Use training set

Supplied test set Set...

Cross-validation Folds

Percentage split %

More options...

(Nom) y

Start Stop

Result list (right-click for options)

- 06:30:40 - bayes.NaiveBayes
- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes
- 06:33:38 - bayes.NaiveBayes
- 06:33:59 - bayes.NaiveBayes
- 06:34:23 - bayes.NaiveBayes
- 06:34:44 - bayes.NaiveBayes
- 06:35:09 - bayes.NaiveBayes
- 06:35:37 - bayes.NaiveBayes
- 06:36:20 - lazy.IBk
- 06:36:31 - lazy.IBk
- 06:37:06 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances	3994	88.3433 %
Incorrectly Classified Instances	527	11.6567 %
Kappa statistic	0.1618	
Mean absolute error	0.1557	
Root mean squared error	0.3094	
Relative absolute error	76.2736 %	
Root relative squared error	96.8952 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Cl
	0.982	0.871	0.896	0.982	0.937	0.203	0.709	0.932	no
	0.129	0.018	0.479	0.129	0.203	0.203	0.709	0.274	yes
Weighted Avg.	0.883	0.773	0.848	0.883	0.852	0.203	0.709	0.856	

=== Confusion Matrix ===

	a	b	<-- classified as
3927	73		a = no
454	67		b = yes

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) y

Result list (right-click for options)

- 06:32:26 - bayes.NaiveBayes
- 06:33:16 - bayes.NaiveBayes
- 06:33:38 - bayes.NaiveBayes
- 06:33:59 - bayes.NaiveBayes
- 06:34:23 - bayes.NaiveBayes
- 06:34:44 - bayes.NaiveBayes
- 06:35:09 - bayes.NaiveBayes
- 06:35:37 - bayes.NaiveBayes
- 06:36:20 - lazy.IBk
- 06:36:31 - lazy.IBk
- 06:37:06 - lazy.IBk
- 06:37:25 - lazy.IBk
- 06:37:47 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	3986	88.1663 %
Incorrectly Classified Instances	535	11.8337 %
Kappa statistic	0.1573	
Mean absolute error	0.1566	
Root mean squared error	0.3108	
Relative absolute error	76.7099 %	
Root relative squared error	97.342 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.980	0.871	0.896	0.980	0.936	0.194	0.714	0.934	no
	0.129	0.020	0.453	0.129	0.200	0.194	0.714	0.263	yes
Weighted Avg.	0.882	0.773	0.845	0.882	0.851	0.194	0.714	0.857	

=== Confusion Matrix ===

a	b	<-- classified as	
3919	81	a = no	
454	67	b = yes	

Classifier

Choose

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) y

Result list (right-click for options)

- 06:34:44 - bayes.NaiveBayes
- 06:35:09 - bayes.NaiveBayes
- 06:35:37 - bayes.NaiveBayes
- 06:36:20 - lazy.IBk
- 06:36:31 - lazy.IBk
- 06:37:06 - lazy.IBk
- 06:37:25 - lazy.IBk
- 06:37:47 - lazy.IBk
- 06:38:08 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	3979	88.0115 %
Incorrectly Classified Instances	542	11.9885 %
Kappa statistic	0.1596	
Mean absolute error	0.1556	
Root mean squared error	0.3106	
Relative absolute error	76.2565 %	
Root relative squared error	97.2752 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.977	0.866	0.897	0.977	0.935	0.192	0.710	0.933	no
	0.134	0.023	0.435	0.134	0.205	0.192	0.710	0.274	yes
Weighted Avg.	0.880	0.769	0.843	0.880	0.851	0.192	0.710	0.857	

=== Confusion Matrix ===

a	b	<-- classified as	
3909	91	a = no	
451	70	b = yes	

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split % 66

(Nom) y

Result list (right-click for options)

06:33:59 - bayes.NaiveBayes
06:34:23 - bayes.NaiveBayes
06:34:44 - bayes.NaiveBayes
06:35:09 - bayes.NaiveBayes
06:35:37 - bayes.NaiveBayes
06:36:20 - lazy.IBk
06:36:31 - lazy.IBk
06:37:06 - lazy.IBk
06:37:25 - lazy.IBk
06:37:47 - lazy.IBk
06:38:08 - lazy.IBk
06:38:31 - lazy.IBk

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	3981	88.0557 %
Incorrectly Classified Instances	540	11.9443 %
Kappa statistic	0.1464	
Mean absolute error	0.1574	
Root mean squared error	0.3116	
Relative absolute error	77.1462 %	
Root relative squared error	97.6003 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.980	0.879	0.895	0.980	0.936	0.182	0.705	0.931	no
	0.121	0.021	0.434	0.121	0.189	0.182	0.705	0.256	yes
Weighted Avg.	0.881	0.780	0.842	0.881	0.850	0.182	0.705	0.853	

=== Confusion Matrix ===

a	b	<-- classified as	
3918	82	a = no	
458	63	b = yes	

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split % 66

(Nom) y

Result list (right-click for options)

06:34:23 - bayes.NaiveBayes
06:34:44 - bayes.NaiveBayes
06:35:09 - bayes.NaiveBayes
06:35:37 - bayes.NaiveBayes
06:36:20 - lazy.IBk
06:36:31 - lazy.IBk
06:37:06 - lazy.IBk
06:37:25 - lazy.IBk
06:37:47 - lazy.IBk
06:38:08 - lazy.IBk
06:38:31 - lazy.IBk
06:38:58 - lazy.IBk

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	3994	88.3433 %
Incorrectly Classified Instances	527	11.6567 %
Kappa statistic	0.1639	
Mean absolute error	0.1558	
Root mean squared error	0.3096	
Relative absolute error	76.3451 %	
Root relative squared error	96.9716 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.982	0.869	0.897	0.982	0.937	0.205	0.709	0.932	no
	0.131	0.019	0.479	0.131	0.205	0.205	0.709	0.270	yes
Weighted Avg.	0.883	0.771	0.848	0.883	0.853	0.205	0.709	0.856	

=== Confusion Matrix ===

a	b	<-- classified as	
3926	74	a = no	
453	68	b = yes	

Test options

Use training set

Supplied test set Set...

Cross-validation Folds

Percentage split %

More options...

(Nom) y

Start Stop

Result list (right-click for options)

- 06:34:44 - bayes.NaiveBayes
- 06:35:09 - bayes.NaiveBayes
- 06:35:37 - bayes.NaiveBayes
- 06:36:20 - lazy.IBk
- 06:36:31 - lazy.IBk
- 06:37:06 - lazy.IBk
- 06:37:25 - lazy.IBk
- 06:37:47 - lazy.IBk
- 06:38:08 - lazy.IBk
- 06:38:31 - lazy.IBk
- 06:38:58 - lazy.IBk
- 06:39:20 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	3972	87.8567 %
Incorrectly Classified Instances	549	12.1433 %
Kappa statistic	0.1436	
Mean absolute error	0.1575	
Root mean squared error	0.3128	
Relative absolute error	77.1694 %	
Root relative squared error	97.9686 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.977	0.877	0.895	0.977	0.934	0.175	0.699	0.930	no
	0.123	0.023	0.410	0.123	0.189	0.175	0.699	0.260	yes
Weighted Avg.	0.879	0.779	0.839	0.879	0.848	0.175	0.699	0.853	

=== Confusion Matrix ===

a	b	<-- classified as
3908	92	a = no
457	64	b = yes

Test options

Use training set

Supplied test set Set...

Cross-validation Folds

Percentage split %

More options...

(Nom) y

Start Stop

Result list (right-click for options)

- 06:35:09 - bayes.NaiveBayes
- 06:35:37 - bayes.NaiveBayes
- 06:36:20 - lazy.IBk
- 06:36:31 - lazy.IBk
- 06:37:06 - lazy.IBk
- 06:37:25 - lazy.IBk
- 06:37:47 - lazy.IBk
- 06:38:08 - lazy.IBk
- 06:38:31 - lazy.IBk
- 06:38:58 - lazy.IBk
- 06:39:20 - lazy.IBk
- 06:39:44 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	3986	88.1663 %
Incorrectly Classified Instances	535	11.8337 %
Kappa statistic	0.1573	
Mean absolute error	0.1561	
Root mean squared error	0.3097	
Relative absolute error	76.5196 %	
Root relative squared error	96.9806 %	
Total Number of Instances	4521	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.980	0.871	0.896	0.980	0.936	0.194	0.716	0.934	no
	0.129	0.020	0.453	0.129	0.200	0.194	0.716	0.270	yes
Weighted Avg.	0.882	0.773	0.845	0.882	0.851	0.194	0.716	0.858	

=== Confusion Matrix ===

a	b	<-- classified as
3919	81	a = no
454	67	b = yes

Test options

Use training set
 Supplied test set
 Cross-validation Folds 10
 Percentage split % 66

(Nom) y

Result list (right-click for options)

- 06:35:37 - bayes.NaiveBayes
- 06:36:20 - lazy.IBk
- 06:36:31 - lazy.IBk
- 06:37:06 - lazy.IBk
- 06:37:25 - lazy.IBk
- 06:37:47 - lazy.IBk
- 06:38:08 - lazy.IBk
- 06:38:31 - lazy.IBk
- 06:38:58 - lazy.IBk
- 06:39:20 - lazy.IBk
- 06:39:44 - lazy.IBk
- 06:40:09 - lazy.IBk

Classifier output

```

=== Evaluation on training set ===

Time taken to test model on training data: 1.03 seconds

=== Summary ===

Correctly Classified Instances      4104      90.7764 %
Incorrectly Classified Instances    417       9.2236 %
Kappa statistic                    0.3692
Mean absolute error                 0.1223
Root mean squared error             0.2499
Relative absolute error              59.918 %
Root relative squared error         78.2764 %
Total Number of Instances          4521

=== Detailed Accuracy By Class ===

                TP Rate  FP Rate  Precision  Recall  F-Measure  MCC      ROC Area  PRC Area  Cla
                0.990   0.726   0.913     0.990   0.950     0.430   0.932    0.986    no
                0.274   0.010   0.786     0.274   0.407     0.430   0.932    0.568    yes
Weighted Avg.   0.908   0.643   0.898     0.908   0.887     0.430   0.932    0.938

=== Confusion Matrix ===

  a  b  <-- classified as
3961 39 | a = no
 378 143 | b = yes

```

Naïve bayes data tic tac toe End game :

Test options

Use training set
 Supplied test set
 Cross-validation Folds 2
 Percentage split % 66

(Nom) Class

Result list (right-click for options)

- 06:36:20 - lazy.IBk
- 06:36:31 - lazy.IBk
- 06:37:06 - lazy.IBk
- 06:37:25 - lazy.IBk
- 06:37:47 - lazy.IBk
- 06:38:08 - lazy.IBk
- 06:38:31 - lazy.IBk
- 06:38:58 - lazy.IBk
- 06:39:20 - lazy.IBk
- 06:39:44 - lazy.IBk
- 06:40:09 - lazy.IBk
- 06:40:34 - lazy.IBk

Classifier output

```

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances      683      71.2944 %
Incorrectly Classified Instances    275      28.7056 %
Kappa statistic                    0.3143
Mean absolute error                 0.3698
Root mean squared error             0.4325
Relative absolute error             81.6204 %
Root relative squared error         90.8828 %
Total Number of Instances          958

=== Detailed Accuracy By Class ===

                TP Rate  FP Rate  Precision  Recall  F-Measure  MCC      ROC Area  PRC Area  Cla
                0.866   0.575   0.739     0.866   0.798     0.326   0.746    0.856    pos
                0.425   0.134   0.627     0.425   0.506     0.326   0.746    0.633    neg
Weighted Avg.   0.713   0.422   0.700     0.713   0.697     0.326   0.746    0.779

=== Confusion Matrix ===

  a  b  <-- classified as
542 84 | a = positive
191 141 | b = negative

```


Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) Class

Result list (right-click for options)

- 06:36:31 - lazy.IBK
- 06:37:06 - lazy.IBK
- 06:37:25 - lazy.IBK
- 06:37:47 - lazy.IBK
- 06:38:08 - lazy.IBK
- 06:38:31 - lazy.IBK
- 06:38:58 - lazy.IBK
- 06:39:20 - lazy.IBK
- 06:39:44 - lazy.IBK
- 06:40:09 - lazy.IBK
- 06:40:34 - lazy.IBK
- 06:43:26 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	679	70.8768 %
Incorrectly Classified Instances	279	29.1232 %
Kappa statistic	0.3054	
Mean absolute error	0.3677	
Root mean squared error	0.4302	
Relative absolute error	81.1549 %	
Root relative squared error	90.405 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Clf
	0.861	0.578	0.737	0.861	0.794	0.316	0.747	0.858	pos
	0.422	0.139	0.617	0.422	0.501	0.316	0.747	0.647	neg
Weighted Avg.	0.709	0.426	0.696	0.709	0.693	0.316	0.747	0.785	

=== Confusion Matrix ===

```

a b <-- classified as
539 87 | a = positive
192 140 | b = negative
    
```

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) Class

Result list (right-click for options)

- 06:37:06 - lazy.IBK
- 06:37:25 - lazy.IBK
- 06:37:47 - lazy.IBK
- 06:38:08 - lazy.IBK
- 06:38:31 - lazy.IBK
- 06:38:58 - lazy.IBK
- 06:39:20 - lazy.IBK
- 06:39:44 - lazy.IBK
- 06:40:09 - lazy.IBK
- 06:40:34 - lazy.IBK
- 06:43:26 - bayes.NaiveBayes
- 06:54:52 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	663	69.2067 %
Incorrectly Classified Instances	295	30.7933 %
Kappa statistic	0.2678	
Mean absolute error	0.3702	
Root mean squared error	0.4321	
Relative absolute error	81.7113 %	
Root relative squared error	90.7957 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Clf
	0.845	0.596	0.728	0.845	0.782	0.277	0.746	0.854	pos
	0.404	0.155	0.580	0.404	0.476	0.277	0.746	0.640	neg
Weighted Avg.	0.692	0.443	0.677	0.692	0.676	0.277	0.746	0.780	

=== Confusion Matrix ===

```

a b <-- classified as
529 97 | a = positive
198 134 | b = negative
    
```

Test options

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) Class ▼

Result list (right-click for options)

- 06:37:47 - lazy.IBk
- 06:38:08 - lazy.IBk
- 06:38:31 - lazy.IBk
- 06:38:58 - lazy.IBk
- 06:39:20 - lazy.IBk
- 06:39:44 - lazy.IBk
- 06:40:09 - lazy.IBk
- 06:40:34 - lazy.IBk
- 06:43:26 - bayes.NaiveBayes
- 06:54:52 - bayes.NaiveBayes
- 06:55:12 - bayes.NaiveBayes
- 06:55:39 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	668	69.7286 %
Incorrectly Classified Instances	290	30.2714 %
Kappa statistic	0.2818	
Mean absolute error	0.371	
Root mean squared error	0.4333	
Relative absolute error	81.8865 %	
Root relative squared error	91.0583 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.847	0.584	0.732	0.847	0.785	0.291	0.742	0.855	pos
	0.416	0.153	0.590	0.416	0.488	0.291	0.742	0.633	neg
Weighted Avg.	0.697	0.435	0.683	0.697	0.682	0.291	0.742	0.778	

=== Confusion Matrix ===

```

a  b  <-- classified as
530 96 | a = positive
194 138 | b = negative

```

Test options

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) Class ▼

Result list (right-click for options)

- 06:38:08 - lazy.IBk
- 06:38:31 - lazy.IBk
- 06:38:58 - lazy.IBk
- 06:39:20 - lazy.IBk
- 06:39:44 - lazy.IBk
- 06:40:09 - lazy.IBk
- 06:40:34 - lazy.IBk
- 06:43:26 - bayes.NaiveBayes
- 06:54:52 - bayes.NaiveBayes
- 06:55:12 - bayes.NaiveBayes
- 06:55:39 - bayes.NaiveBayes
- 06:55:45 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	671	70.0418 %
Incorrectly Classified Instances	287	29.9582 %
Kappa statistic	0.292	
Mean absolute error	0.3678	
Root mean squared error	0.4291	
Relative absolute error	81.1969 %	
Root relative squared error	90.1784 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.845	0.572	0.736	0.845	0.787	0.300	0.750	0.861	pos
	0.428	0.155	0.594	0.428	0.497	0.300	0.750	0.641	neg
Weighted Avg.	0.700	0.428	0.687	0.700	0.686	0.300	0.750	0.785	

=== Confusion Matrix ===

```

a  b  <-- classified as
529 97 | a = positive
190 142 | b = negative

```

Test options

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) Class ▼

Result list (right-click for options)

- 06:38:31 - lazy.IBk
- 06:38:58 - lazy.IBk
- 06:39:20 - lazy.IBk
- 06:39:44 - lazy.IBk
- 06:40:09 - lazy.IBk
- 06:40:34 - lazy.IBk
- 06:43:26 - bayes.NaiveBayes
- 06:54:52 - bayes.NaiveBayes
- 06:55:12 - bayes.NaiveBayes
- 06:55:39 - bayes.NaiveBayes
- 06:55:45 - bayes.NaiveBayes
- 06:56:03 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	666	69.5198 %
Incorrectly Classified Instances	292	30.4802 %
Kappa statistic	0.278	
Mean absolute error	0.3675	
Root mean squared error	0.4288	
Relative absolute error	81.1123 %	
Root relative squared error	90.106 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.843	0.584	0.731	0.843	0.783	0.286	0.749	0.860	pos
	0.416	0.157	0.585	0.416	0.486	0.286	0.749	0.646	neg
Weighted Avg.	0.695	0.436	0.681	0.695	0.680	0.286	0.749	0.786	

=== Confusion Matrix ===

a	b	<-- classified as
528	98	a = positive
194	138	b = negative

Test options

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) Class ▼

Result list (right-click for options)

- 06:39:20 - lazy.IBk
- 06:39:44 - lazy.IBk
- 06:40:09 - lazy.IBk
- 06:40:34 - lazy.IBk
- 06:43:26 - bayes.NaiveBayes
- 06:54:52 - bayes.NaiveBayes
- 06:55:12 - bayes.NaiveBayes
- 06:55:39 - bayes.NaiveBayes
- 06:55:45 - bayes.NaiveBayes
- 06:56:03 - bayes.NaiveBayes
- 06:56:21 - bayes.NaiveBayes
- 06:56:44 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	670	69.9374 %
Incorrectly Classified Instances	288	30.0626 %
Kappa statistic	0.289	
Mean absolute error	0.3708	
Root mean squared error	0.4323	
Relative absolute error	81.8582 %	
Root relative squared error	90.8381 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.845	0.575	0.735	0.845	0.786	0.297	0.742	0.854	pos
	0.425	0.155	0.592	0.425	0.495	0.297	0.742	0.635	neg
Weighted Avg.	0.699	0.430	0.685	0.699	0.685	0.297	0.742	0.778	

=== Confusion Matrix ===

a	b	<-- classified as
529	97	a = positive
191	141	b = negative

Test options

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) Class ▼

Start Stop

Result list (right-click for options)

- 06:39:44 - lazy.IBk
- 06:40:09 - lazy.IBk
- 06:40:34 - lazy.IBk
- 06:43:26 - bayes.NaiveBayes
- 06:54:52 - bayes.NaiveBayes
- 06:55:12 - bayes.NaiveBayes
- 06:55:39 - bayes.NaiveBayes
- 06:55:45 - bayes.NaiveBayes
- 06:56:03 - bayes.NaiveBayes
- 06:56:21 - bayes.NaiveBayes
- 06:56:44 - bayes.NaiveBayes
- 06:56:46 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	672	70.1461 %
Incorrectly Classified Instances	286	29.8539 %
Kappa statistic	0.295	
Mean absolute error	0.3695	
Root mean squared error	0.4311	
Relative absolute error	81.5569 %	
Root relative squared error	90.5844 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.845	0.569	0.737	0.845	0.787	0.303	0.745	0.857	pos
	0.431	0.155	0.596	0.431	0.500	0.303	0.745	0.637	neg
Weighted Avg.	0.701	0.426	0.688	0.701	0.688	0.303	0.745	0.781	

=== Confusion Matrix ===

a	b	<-- classified as
529	97	a = positive
189	143	b = negative

Test options

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) Class ▼

Start Stop

Result list (right-click for options)

- 06:40:09 - lazy.IBk
- 06:40:34 - lazy.IBk
- 06:43:26 - bayes.NaiveBayes
- 06:54:52 - bayes.NaiveBayes
- 06:55:12 - bayes.NaiveBayes
- 06:55:39 - bayes.NaiveBayes
- 06:55:45 - bayes.NaiveBayes
- 06:56:03 - bayes.NaiveBayes
- 06:56:21 - bayes.NaiveBayes
- 06:56:44 - bayes.NaiveBayes
- 06:56:46 - bayes.NaiveBayes
- 06:57:04 - bayes.NaiveBayes

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	667	69.6242 %
Incorrectly Classified Instances	291	30.3758 %
Kappa statistic	0.2843	
Mean absolute error	0.3702	
Root mean squared error	0.4319	
Relative absolute error	81.7182 %	
Root relative squared error	90.7504 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.839	0.572	0.734	0.839	0.783	0.291	0.744	0.857	pos
	0.428	0.161	0.584	0.428	0.494	0.291	0.744	0.635	neg
Weighted Avg.	0.696	0.430	0.682	0.696	0.683	0.291	0.744	0.780	

=== Confusion Matrix ===

a	b	<-- classified as
525	101	a = positive
190	142	b = negative

Test options

Use training set
 Supplied test set
 Cross-validation Folds 10
 Percentage split % 66

(Nom) Class

Result list (right-click for options)

06:40:34 - lazy.IBK
06:43:26 - bayes.NaiveBayes
06:54:52 - bayes.NaiveBayes
06:55:12 - bayes.NaiveBayes
06:55:39 - bayes.NaiveBayes
06:55:45 - bayes.NaiveBayes
06:56:03 - bayes.NaiveBayes
06:56:21 - bayes.NaiveBayes
06:56:44 - bayes.NaiveBayes
06:56:46 - bayes.NaiveBayes
06:57:04 - bayes.NaiveBayes
06:57:26 - bayes.NaiveBayes

Classifier output

```

=== Evaluation on training set ===

Time taken to test model on training data: 0 seconds

=== Summary ===

Correctly Classified Instances      669      69.833 %
Incorrectly Classified Instances    289      30.167 %
Kappa statistic                    0.2945
Mean absolute error                 0.3621
Root mean squared error             0.423
Relative absolute error             79.9323 %
Root relative squared error         88.8807 %
Total Number of Instances          958

=== Detailed Accuracy By Class ===

                TP Rate  FP Rate  Precision  Recall  F-Measure  MCC      ROC Area  PRC Area  Cla
Weighted Avg.   0.698   0.420   0.686     0.698   0.687     0.300   0.769     0.805   pos
                0.832   0.554   0.739     0.832   0.783     0.300   0.769     0.876   pos
                0.446   0.168   0.585     0.446   0.506     0.300   0.769     0.669   neg

=== Confusion Matrix ===

  a  b  <-- classified as
521 105 | a = positive
184 148 | b = negative

```

KNN data tic tac toe end game :

Choose **IBK -K 5 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A"weka.core.EuclideanDistance -R first-last"**

Test options

Use training set
 Supplied test set
 Cross-validation Folds 2
 Percentage split % 66

(Nom) Class

Result list (right-click for options)

06:43:26 - bayes.NaiveBayes
06:54:52 - bayes.NaiveBayes
06:55:12 - bayes.NaiveBayes
06:55:39 - bayes.NaiveBayes
06:55:45 - bayes.NaiveBayes
06:56:03 - bayes.NaiveBayes
06:56:21 - bayes.NaiveBayes
06:56:44 - bayes.NaiveBayes
06:56:46 - bayes.NaiveBayes
06:57:04 - bayes.NaiveBayes
06:57:26 - bayes.NaiveBayes
06:57:45 - bayes.NaiveBayes

Classifier output

```

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances      909      94.8852 %
Incorrectly Classified Instances    49       5.1148 %
Kappa statistic                    0.8834
Mean absolute error                 0.2004
Root mean squared error             0.2567
Relative absolute error             44.2236 %
Root relative squared error         53.949 %
Total Number of Instances          958

=== Detailed Accuracy By Class ===

                TP Rate  FP Rate  Precision  Recall  F-Measure  MCC      ROC Area  PRC Area  Cla
Weighted Avg.   0.949   0.094   0.952     0.949   0.948     0.888   0.995     0.995   pos
                0.997   0.142   0.930     0.997   0.962     0.888   0.995     0.997   pos
                0.858   0.003   0.993     0.858   0.921     0.888   0.995     0.991   neg

=== Confusion Matrix ===

  a  b  <-- classified as
624   2 | a = positive
47 285 | b = negative

```

Choose **IBk -K 5 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A "weka.core.EuclideanDistance -R first-last"**

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) Class

Result list (right-click for options)

- 06:54:52 - bayes.NaiveBayes
- 06:55:12 - bayes.NaiveBayes
- 06:55:39 - bayes.NaiveBayes
- 06:55:45 - bayes.NaiveBayes
- 06:56:03 - bayes.NaiveBayes
- 06:56:21 - bayes.NaiveBayes
- 06:56:44 - bayes.NaiveBayes
- 06:56:46 - bayes.NaiveBayes
- 06:57:04 - bayes.NaiveBayes
- 06:57:26 - bayes.NaiveBayes
- 06:57:45 - bayes.NaiveBayes
- 06:58:52 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	932	97.286 %
Incorrectly Classified Instances	26	2.714 %
Kappa statistic	0.939	
Mean absolute error	0.1885	
Root mean squared error	0.2349	
Relative absolute error	41.6052 %	
Root relative squared error	49.3592 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
pos	1.000	0.078	0.960	1.000	0.980	0.941	0.998	0.999	pos
neg	0.922	0.000	1.000	0.922	0.959	0.941	0.998	0.997	neg
Weighted Avg.	0.973	0.051	0.974	0.973	0.973	0.941	0.998	0.998	

=== Confusion Matrix ===

a	b	-- classified as	
626	0	a = positive	
26	306	b = negative	

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) Class

Result list (right-click for options)

- 06:55:12 - bayes.NaiveBayes
- 06:55:39 - bayes.NaiveBayes
- 06:55:45 - bayes.NaiveBayes
- 06:56:03 - bayes.NaiveBayes
- 06:56:21 - bayes.NaiveBayes
- 06:56:44 - bayes.NaiveBayes
- 06:56:46 - bayes.NaiveBayes
- 06:57:04 - bayes.NaiveBayes
- 06:57:26 - bayes.NaiveBayes
- 06:57:45 - bayes.NaiveBayes
- 06:58:52 - lazy.IBk
- 06:59:12 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	931	97.1816 %
Incorrectly Classified Instances	27	2.8184 %
Kappa statistic	0.9366	
Mean absolute error	0.1936	
Root mean squared error	0.2386	
Relative absolute error	42.727 %	
Root relative squared error	50.1329 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
pos	1.000	0.081	0.959	1.000	0.979	0.938	0.999	0.999	pos
neg	0.919	0.000	1.000	0.919	0.958	0.938	0.999	0.998	neg
Weighted Avg.	0.972	0.053	0.973	0.972	0.972	0.938	0.999	0.999	

=== Confusion Matrix ===

a	b	-- classified as	
626	0	a = positive	
27	305	b = negative	

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) Class

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	943	98.4342 %
Incorrectly Classified Instances	15	1.5658 %
Kappa statistic	0.9652	
Mean absolute error	0.1893	
Root mean squared error	0.2319	
Relative absolute error	41.7863 %	
Root relative squared error	48.7363 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.997	0.039	0.980	0.997	0.988	0.965	1.000	1.000	pos
	0.961	0.003	0.994	0.961	0.977	0.965	1.000	0.999	neg
Weighted Avg.	0.984	0.027	0.985	0.984	0.984	0.965	1.000	1.000	

=== Confusion Matrix ===

a	b	<-- classified as
624	2	a = positive
13	319	b = negative

Result list (right-click for options)

- 06:55:39 - bayes.NaiveBayes
- 06:55:45 - bayes.NaiveBayes
- 06:56:03 - bayes.NaiveBayes
- 06:56:21 - bayes.NaiveBayes
- 06:56:44 - bayes.NaiveBayes
- 06:56:46 - bayes.NaiveBayes
- 06:57:04 - bayes.NaiveBayes
- 06:57:26 - bayes.NaiveBayes
- 06:57:45 - bayes.NaiveBayes
- 06:58:52 - lazy.IBk
- 06:59:12 - lazy.IBk
- 06:59:49 - lazy.IBk

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) Class

Classifier output

Time taken to build model: 0.01 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	943	98.4342 %
Incorrectly Classified Instances	15	1.5658 %
Kappa statistic	0.9651	
Mean absolute error	0.1874	
Root mean squared error	0.2285	
Relative absolute error	41.376 %	
Root relative squared error	48.027 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	1.000	0.045	0.977	1.000	0.988	0.966	1.000	1.000	pos
	0.955	0.000	1.000	0.955	0.977	0.966	1.000	0.999	neg
Weighted Avg.	0.984	0.030	0.985	0.984	0.984	0.966	1.000	1.000	

=== Confusion Matrix ===

a	b	<-- classified as
626	0	a = positive
15	317	b = negative

Result list (right-click for options)

- 06:55:45 - bayes.NaiveBayes
- 06:56:03 - bayes.NaiveBayes
- 06:56:21 - bayes.NaiveBayes
- 06:56:44 - bayes.NaiveBayes
- 06:56:46 - bayes.NaiveBayes
- 06:57:04 - bayes.NaiveBayes
- 06:57:26 - bayes.NaiveBayes
- 06:57:45 - bayes.NaiveBayes
- 06:58:52 - lazy.IBk
- 06:59:12 - lazy.IBk
- 06:59:49 - lazy.IBk
- 07:00:07 - lazy.IBk

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) Class

Result list (right-click for options)

06:57:45 - bayes.NaiveBayes
06:58:52 - lazy.IBk
06:59:12 - lazy.IBk
06:59:49 - lazy.IBk
07:00:07 - lazy.IBk
07:00:31 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	939	98.0167 %
Incorrectly Classified Instances	19	1.9833 %
Kappa statistic	0.9556	
Mean absolute error	0.1913	
Root mean squared error	0.2341	
Relative absolute error	42.2203 %	
Root relative squared error	49.1928 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	1.000	0.057	0.971	1.000	0.985	0.957	0.999	0.999	pos
	0.943	0.000	1.000	0.943	0.971	0.957	0.999	0.998	neg
Weighted Avg.	0.980	0.037	0.981	0.980	0.980	0.957	0.999	0.999	

=== Confusion Matrix ===

a	b	<-- classified as
626	0	a = positive
19	313	b = negative

Test options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) Class

Result list (right-click for options)

06:56:21 - bayes.NaiveBayes
06:56:44 - bayes.NaiveBayes
06:56:46 - bayes.NaiveBayes
06:57:04 - bayes.NaiveBayes
06:57:26 - bayes.NaiveBayes
06:57:45 - bayes.NaiveBayes
06:58:52 - lazy.IBk
06:59:12 - lazy.IBk
06:59:49 - lazy.IBk
07:00:07 - lazy.IBk
07:00:31 - lazy.IBk
07:00:52 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances	945	98.643 %
Incorrectly Classified Instances	13	1.357 %
Kappa statistic	0.9698	
Mean absolute error	0.1921	
Root mean squared error	0.2327	
Relative absolute error	42.4079 %	
Root relative squared error	48.9088 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	1.000	0.039	0.980	1.000	0.990	0.970	1.000	1.000	pos
	0.961	0.000	1.000	0.961	0.980	0.970	1.000	1.000	neg
Weighted Avg.	0.986	0.026	0.987	0.986	0.986	0.970	1.000	1.000	

=== Confusion Matrix ===

a	b	<-- classified as
626	0	a = positive
13	319	b = negative

est options

Use training set
 Supplied test set
 Cross-validation Folds
 Percentage split %

(Nom) Class

result list (right-click for options)

- 06:56:44 - bayes.NaiveBayes
- 06:56:46 - bayes.NaiveBayes
- 06:57:04 - bayes.NaiveBayes
- 06:57:26 - bayes.NaiveBayes
- 06:57:45 - bayes.NaiveBayes
- 06:58:52 - lazy.IBk
- 06:59:12 - lazy.IBk
- 06:59:49 - lazy.IBk
- 07:00:07 - lazy.IBk
- 07:00:31 - lazy.IBk
- 07:00:52 - lazy.IBk
- 07:01:11 - lazy.IBk

Classifier output

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

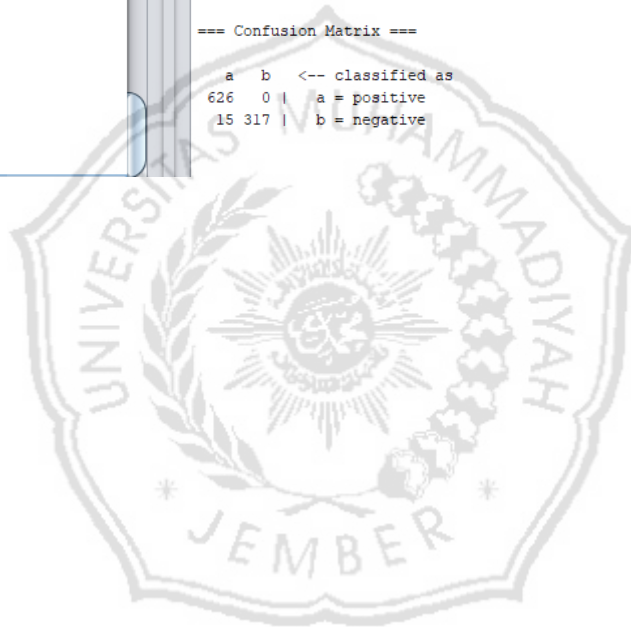
Correctly Classified Instances	943	98.4342 %
Incorrectly Classified Instances	15	1.5658 %
Kappa statistic	0.9651	
Mean absolute error	0.1911	
Root mean squared error	0.2326	
Relative absolute error	42.1862 %	
Root relative squared error	48.8867 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Cl
Weighted Avg.	0.984	0.030	0.985	0.984	0.984	0.966	1.000	1.000	po

=== Confusion Matrix ===

a	b	<-- classified as
626	0	a = positive
15	317	b = negative



Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) Class ▼

Start Stop

result list (right-click for options)

- 06:56:46 - bayes.NaiveBayes
- 06:57:04 - bayes.NaiveBayes
- 06:57:26 - bayes.NaiveBayes
- 06:57:45 - bayes.NaiveBayes
- 06:58:52 - lazy.IBk
- 06:59:12 - lazy.IBk
- 06:59:49 - lazy.IBk
- 07:00:07 - lazy.IBk
- 07:00:31 - lazy.IBk
- 07:00:52 - lazy.IBk
- 07:01:11 - lazy.IBk
- 07:01:28 - lazy.IBk

test options

Use training set
 Supplied test set Set...
 Cross-validation Folds
 Percentage split %
More options...

(Nom) Class ▼

Start Stop

result list (right-click for options)

- 06:57:04 - bayes.NaiveBayes
- 06:57:26 - bayes.NaiveBayes
- 06:57:45 - bayes.NaiveBayes
- 06:58:52 - lazy.IBk
- 06:59:12 - lazy.IBk
- 06:59:49 - lazy.IBk
- 07:00:07 - lazy.IBk
- 07:00:31 - lazy.IBk
- 07:00:52 - lazy.IBk
- 07:01:11 - lazy.IBk
- 07:01:28 - lazy.IBk
- 07:01:46 - lazy.IBk

Time taken to build model: 0 seconds

=== Stratified cross-validation ===
 === Summary ===

Correctly Classified Instances	946	98.7474 %
Incorrectly Classified Instances	12	1.2526 %
Kappa statistic	0.9721	
Mean absolute error	0.1909	
Root mean squared error	0.2315	
Relative absolute error	42.1333 %	
Root relative squared error	48.6378 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	1.000	0.036	0.981	1.000	0.991	0.972	1.000	1.000	pos
	0.964	0.000	1.000	0.964	0.982	0.972	1.000	0.999	neg
Weighted Avg.	0.987	0.024	0.988	0.987	0.987	0.972	1.000	1.000	

=== Confusion Matrix ===

a	b	<-- classified as
626	0	a = positive
12	320	b = negative

Classifier output

=== Evaluation on training set ===

Time taken to test model on training data: 0.08 seconds

=== Summary ===

Correctly Classified Instances	950	99.1649 %
Incorrectly Classified Instances	8	0.8351 %
Kappa statistic	0.9815	
Mean absolute error	0.1821	
Root mean squared error	0.2192	
Relative absolute error	40.1916 %	
Root relative squared error	46.0577 %	
Total Number of Instances	958	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	1.000	0.024	0.987	1.000	0.994	0.982	1.000	1.000	pos
	0.976	0.000	1.000	0.976	0.988	0.982	1.000	1.000	neg
Weighted Avg.	0.992	0.016	0.992	0.992	0.992	0.982	1.000	1.000	

=== Confusion Matrix ===

a	b	<-- classified as
626	0	a = positive
8	324	b = negative



PROGRAM STUDI TEKNIK INFORMATIKA
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UNIVERSITAS MUHAMMADIYAH JEMBER

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DAFTAR REVISI PENGUJI 1
SIDANG TUGAS AKHIR

Nama Mahasiswa : EKA BAGUS SUSANTO
Nomor Induk Mahasiswa : 1410651097
Judul Tugas Akhir : Analisis perbandingan Metode algoritma naive bayes dan knn untuk klasifikasi multi data
Hari / Tanggal : Senin/ 25 maret 2019
Jam : 10.00 WIB
Tempat : Gedung cclt 2

Bab/Halaman	Uraian	Keterangan
abstrak bab 1 - batasan	diperbaiki running time ? metode ?	A ₂
- manfaat bab 2 - terdahulu	lebih detailkan manfaat riset multi data dalam riset terdahulu?	A ₂
	Formula accuracy. NB, KNN	A ₂
bab 4 - 51	grafik diperbaiki layout lampiran perhitungan	A ₂

Dosen Penguji 1

WIWIK SUHARSO, S.Kom, M.Kom

NB : Untuk Mahasiswa



PROGRAM STUDI TEKNIK INFORMATIKA
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UNIVERSITAS MUHAMMADIYAH JEMBER

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DAFTAR REVISI PENGUJI 2
SIDANG TUGAS AKHIR

Nama Mahasiswa : **EKA BAGUS SUSANTO**
Nomor Induk Mahasiswa : **1410651097**
Judul Tugas Akhir : **Analisis perbandingan Metode algoritma naive bayes dan knn untuk klasifikasi multi data**
Hari / Tanggal : **Senin / 25 maret 2019**
Jam : **10.00 WIB**
Tempat : **Gedung cc lt2**

Bab/Halaman	Uraian	Keterangan
	Congklapi pengesahan, dll.	
Bab I	Jelaskan penelitian terdahulu	
	dy melibatkan form dan	
	nama bagus	
Bab II	Certakan semua temuan	
	revelah maupun argygi.	

Dosen Penguji 2

ILHAM SAIFUDIN, S.Pd., M.Si

NB : Untuk Mahasiswa

BIODATA PENULIS

DATA PRIBADI

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RIWAYAT PENDIDIKAN

No.	Jenjang	Nama Institusi	Tahun
1.	SD	SDN Curahnongko 2	2002 – 2008
2.	SMP	SMPM 09 Watukebo	2008 – 2011
3.	SMA	SMA Bima Ambulu	2011 – 2014
4.	Strata 1	Universitas Muhamadiyah Jember	2014 - 2019