PRAKTIKUM DATA WAREHOUSING dan DATA MINING

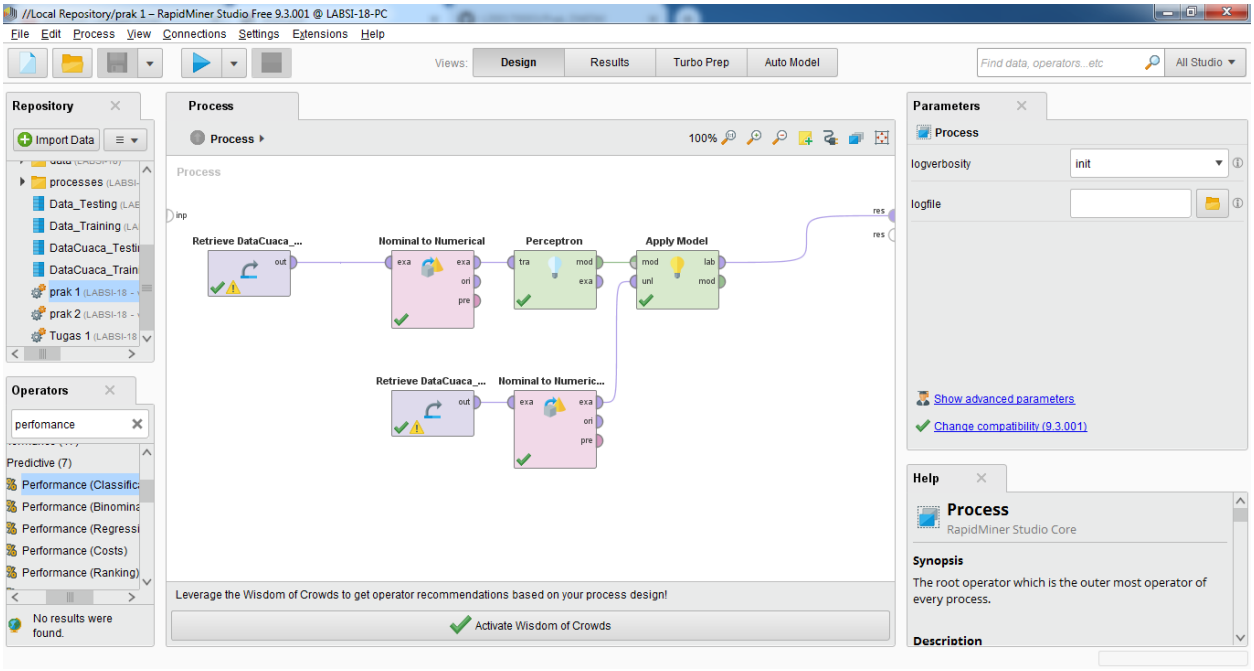
MODUL 13

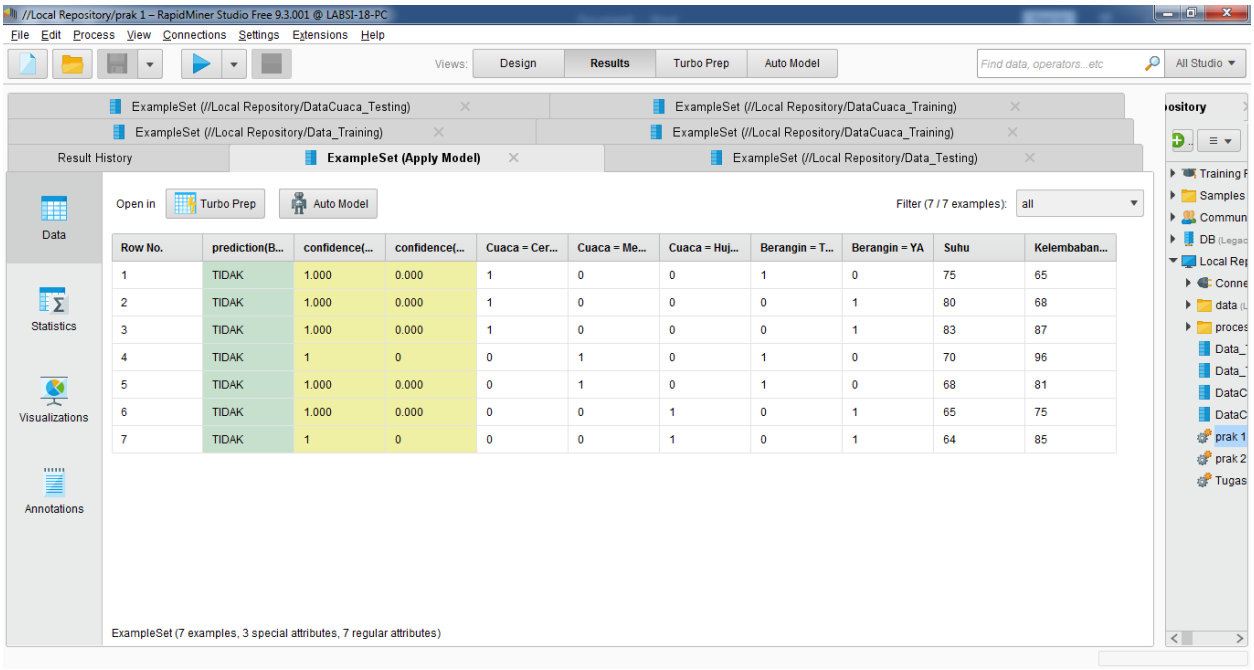
NAMA : AL ADIAT RUSSETYA TAMORA

NIM : L200170037

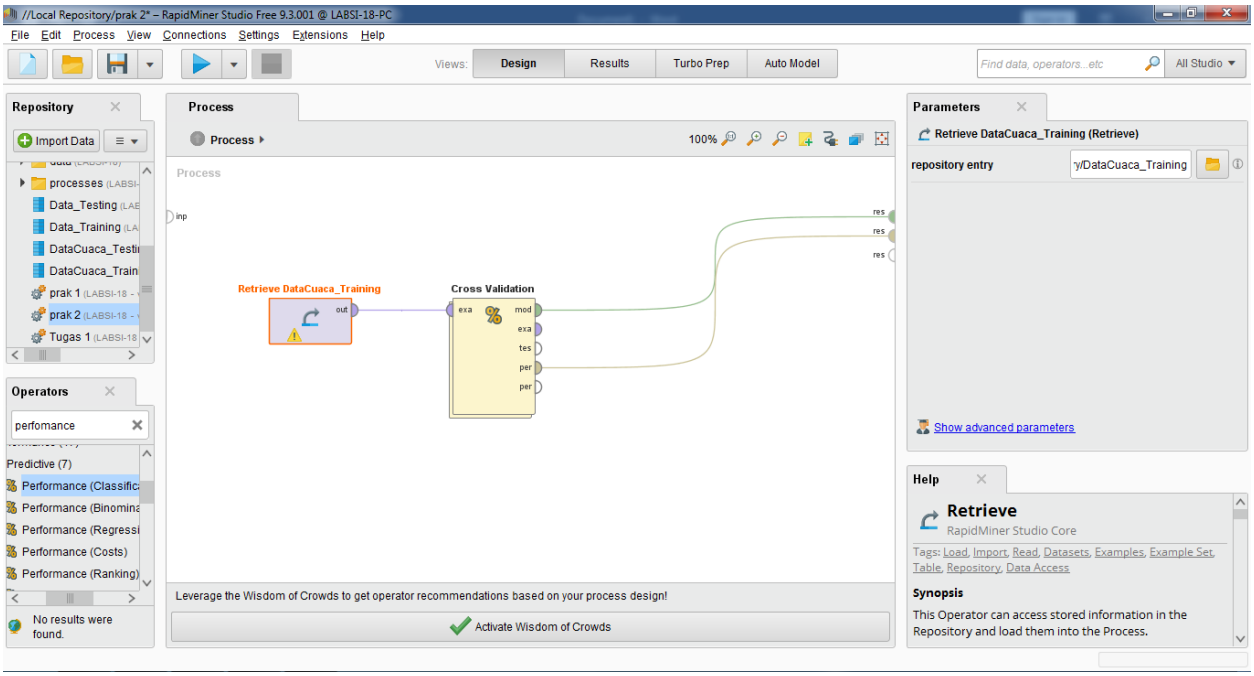
KELAS : B

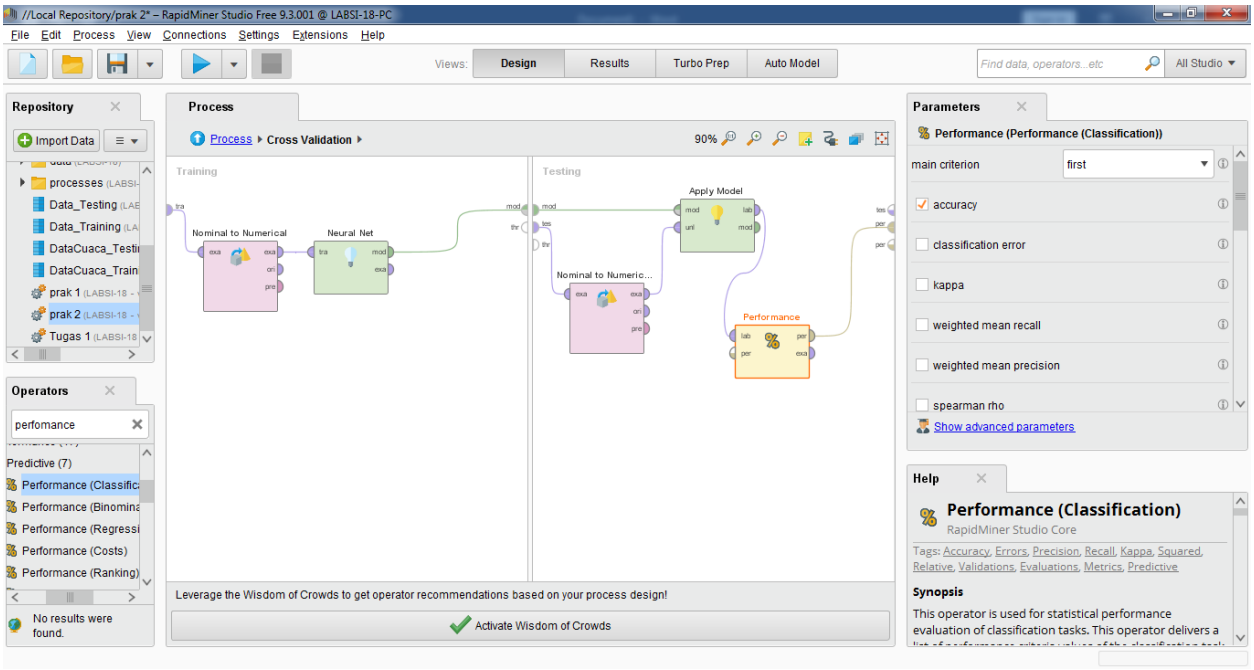
Praktikum 1

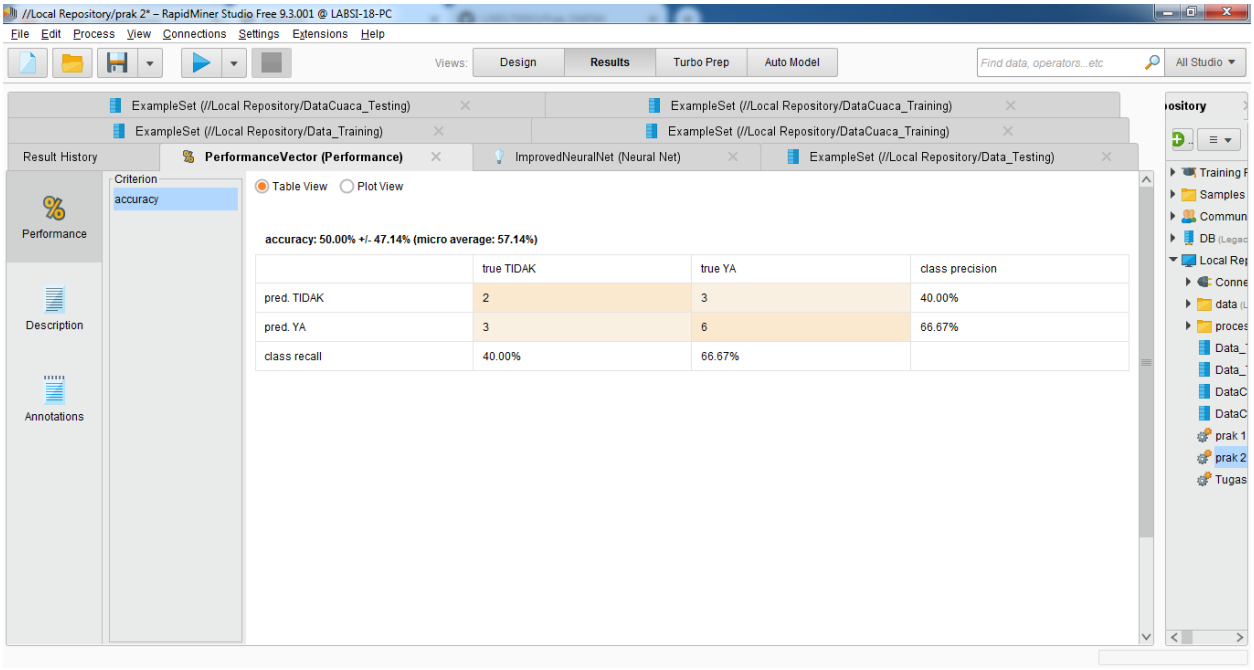


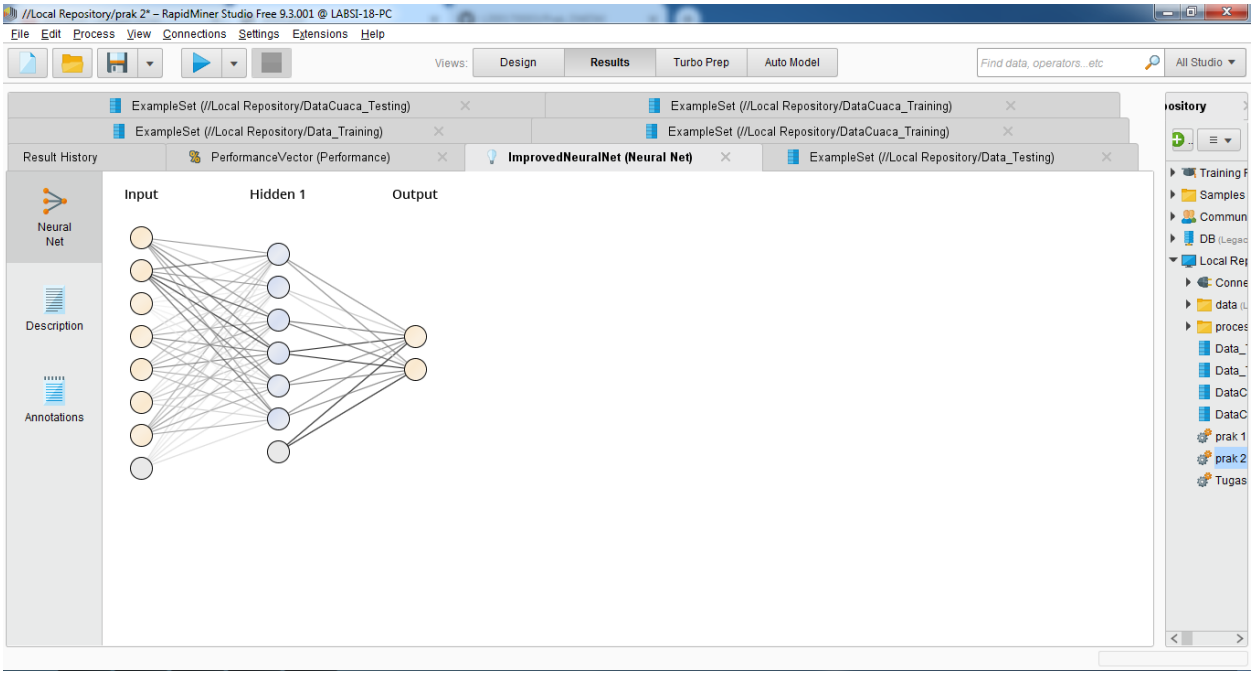

//Local Repository/prak 1 – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
ExampleSet (Apply Model)
ExampleSet (//Local Repository/Data_Testing)
Data
Statistics
Visualizations
Annotations
Open in Turbo Prep Auto Model
Filter (7 / 7 examples): all
Row No. prediction(B... confidence(... confidence(... Cuaca = Cer... Cuaca = Me... Cuaca = Huj... Berangin = T... Berangin = YA Suhu Kelembaban...
1 TIDAK 1.000 0.000 1 0 0 1 0 75 65
2 TIDAK 1.000 0.000 1 0 0 0 1 80 68
3 TIDAK 1.000 0.000 1 0 0 0 1 83 87
4 TIDAK 1 0 0 1 0 1 0 70 96
5 TIDAK 1.000 0.000 0 1 0 1 0 68 81
6 TIDAK 1.000 0.000 0 0 1 0 1 65 75
7 TIDAK 1 0 0 0 1 0 1 64 85
ExampleSet (7 examples, 3 special attributes, 7 regular attributes)

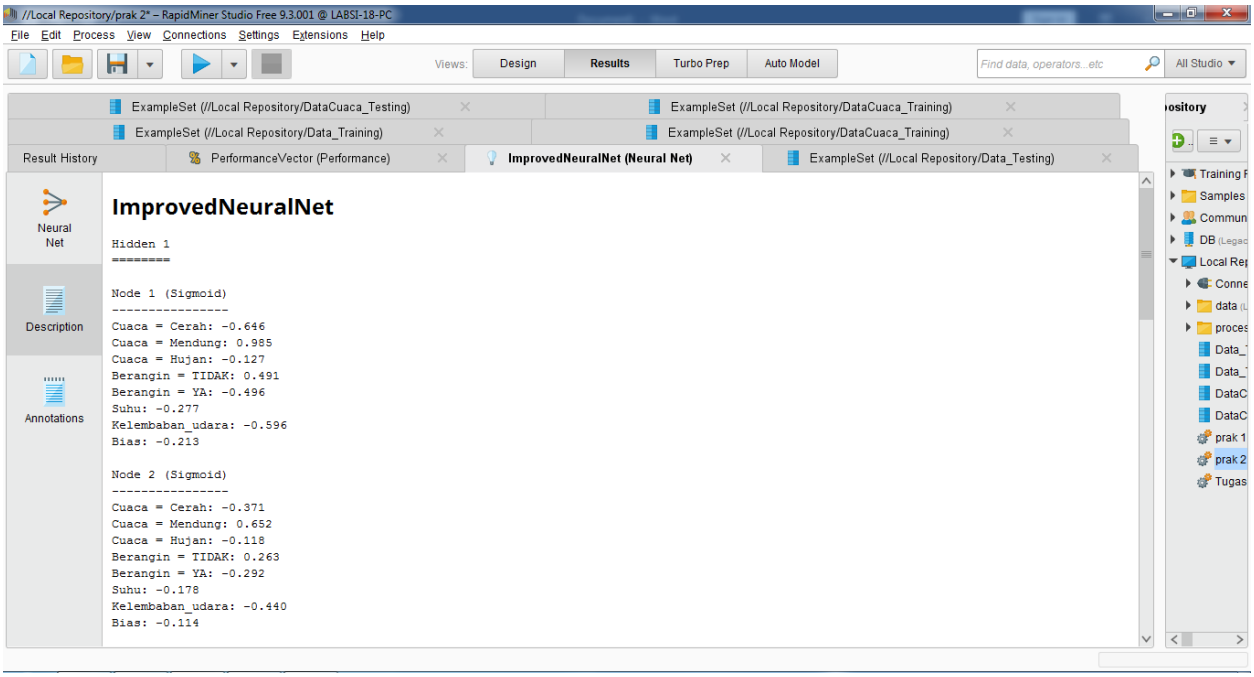
Praktikum 2


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
Repository
Import Data
processes
Data_Testing
Data_Training
DataCuaca_Testi
DataCuaca_Train
prak 1
prak 2
Tugas 1
Operators
perfomance
Predictive (7)
Performance (Classifica
Performance (Binomina
Performance (Regressi
Performance (Costs)
Performance (Ranking)
No results were found.
Process
Process
100%
Retrieve DataCuaca_Training
Cross Validation
Leverage the Wisdom of Crowds to get operator recommendations based on your process design!
Activate Wisdom of Crowds
Parameters
Retrieve DataCuaca_Training (Retrieve)
repository entry
Show advanced parameters
Help
Retrieve
RapidMiner Studio Core
Tags: Load, Import, Read, Datasets, Examples, Example Set, Table, Repository, Data Access
Synopsis
This Operator can access stored information in the Repository and load them into the Process.


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc All Studio
Repository
Import Data
processes (LABSI-
Data_Testing (LAE
Data_Training (LA
DataCuaca_Testi
DataCuaca_Train
prak 1 (LABSI-18 -
prak 2 (LABSI-18 -
Tugas 1 (LABSI-18
Operators
perfomance
Predictive (7)
Performance (Classific
Performance (Binomina
Performance (Regressi
Performance (Costs)
Performance (Ranking)
No results were found.
Process
Process ▸ Cross Validation ▸
90%
Training
Testing
Nominal to Numerical
Neural Net
Apply Model
Nominal to Numeric...
Performance
Leverage the Wisdom of Crowds to get operator recommendations based on your process design!
Activate Wisdom of Crowds
Parameters
Performance (Performance (Classification))
main criterion
first
accuracy
classification error
kappa
weighted mean recall
weighted mean precision
spearman rho
Show advanced parameters
Help
Performance (Classification)
RapidMiner Studio Core
Tags: Accuracy, Errors, Precision, Recall, Kappa, Squared, Relative, Validations, Evaluations, Metrics, Predictive
Synopsis
This operator is used for statistical performance evaluation of classification tasks. This operator delivers a


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
ExampleSet (//Local Repository/Data_Testing)
Performance
Description
Annotations
Criterion
accuracy
Table View
Plot View
accuracy: 50.00% +/- 47.14% (micro average: 57.14%)
true TIDAK
true YA
class precision
pred. TIDAK
2
3
40.00%
pred. YA
3
6
66.67%
class recall
40.00%
66.67%


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
ExampleSet (//Local Repository/Data_Testing)
Neural Net
Description
Annotations
Input
Hidden 1
Output


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
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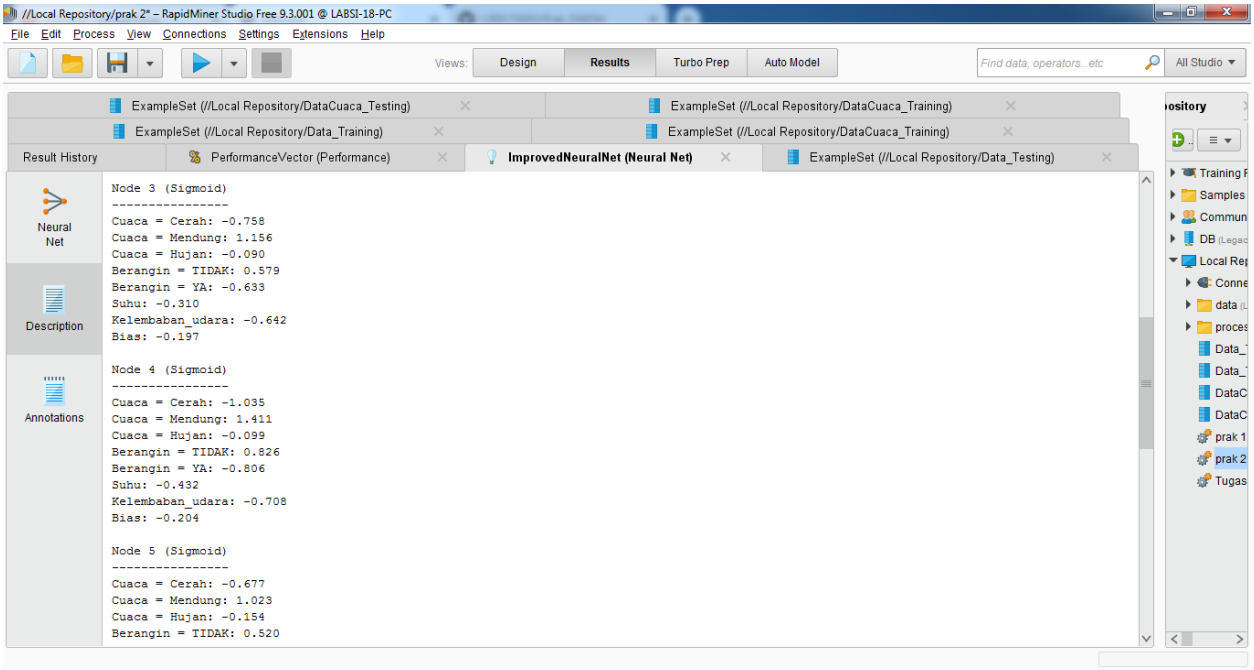
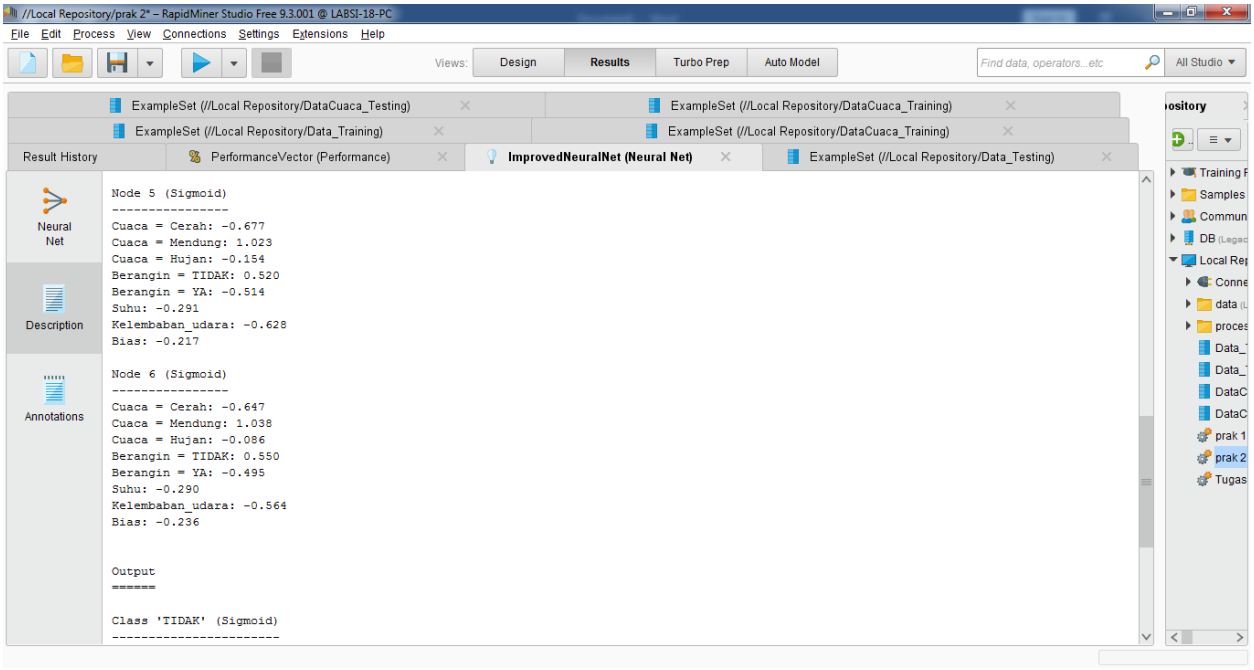
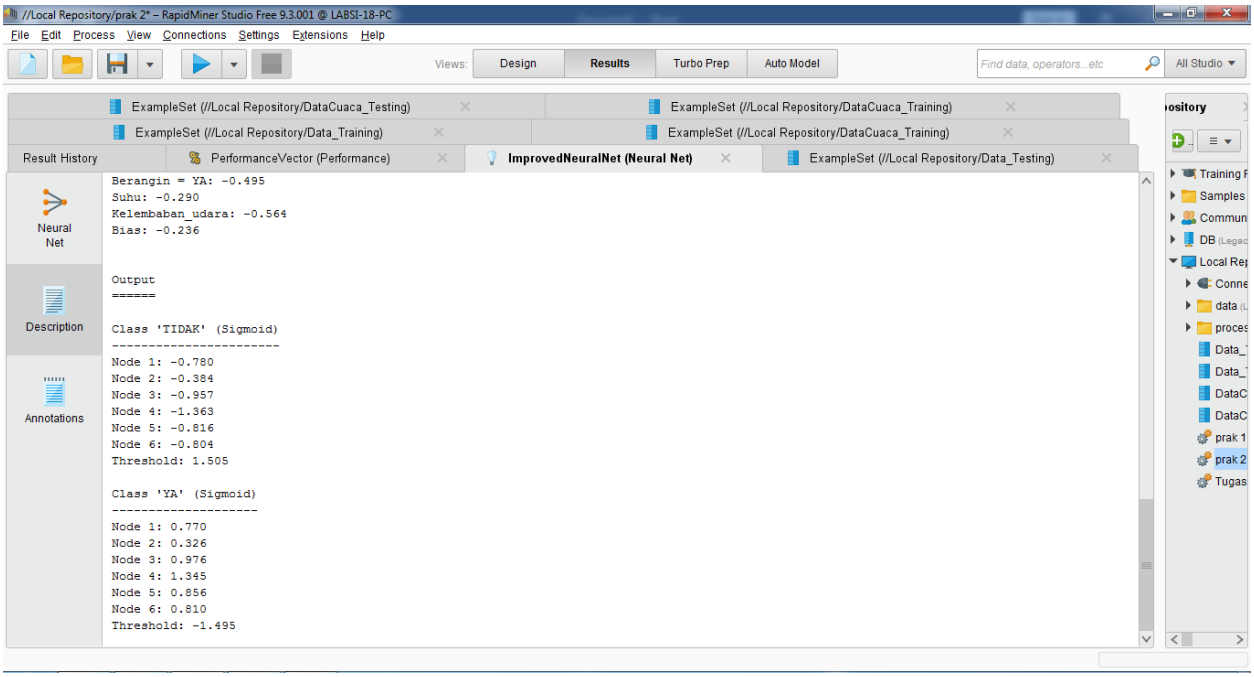
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
ExampleSet (//Local Repository/Data_Testing)
Neural Net
Description
Annotations
ImprovedNeuralNet
Hidden 1
========
Node 1 (Sigmoid)

Cuaca = Cerah: -0.646
Cuaca = Mendung: 0.985
Cuaca = Hujan: -0.127
Berangin = TIDAK: 0.491
Berangin = YA: -0.496
Suhu: -0.277
Kelembaban_udara: -0.596
Bias: -0.213
Node 2 (Sigmoid)

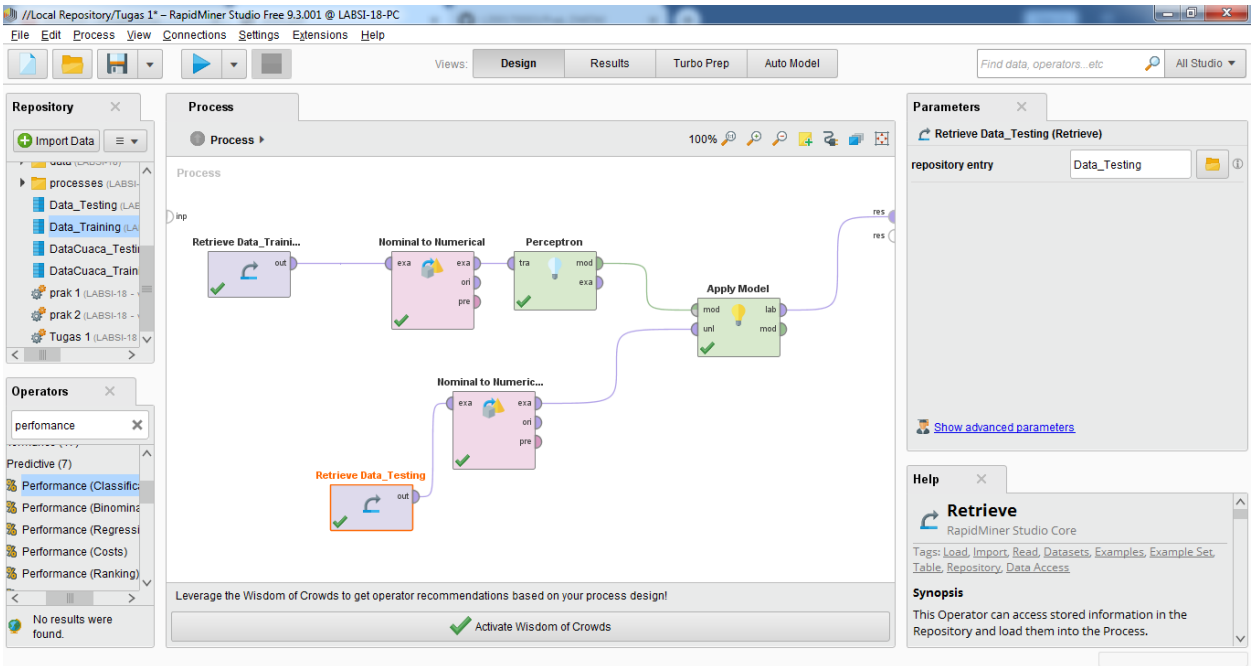
Cuaca = Cerah: -0.371
Cuaca = Mendung: 0.652
Cuaca = Hujan: -0.118
Berangin = TIDAK: 0.263
Berangin = YA: -0.292
Suhu: -0.178
Kelembaban_udara: -0.440
Bias: -0.114

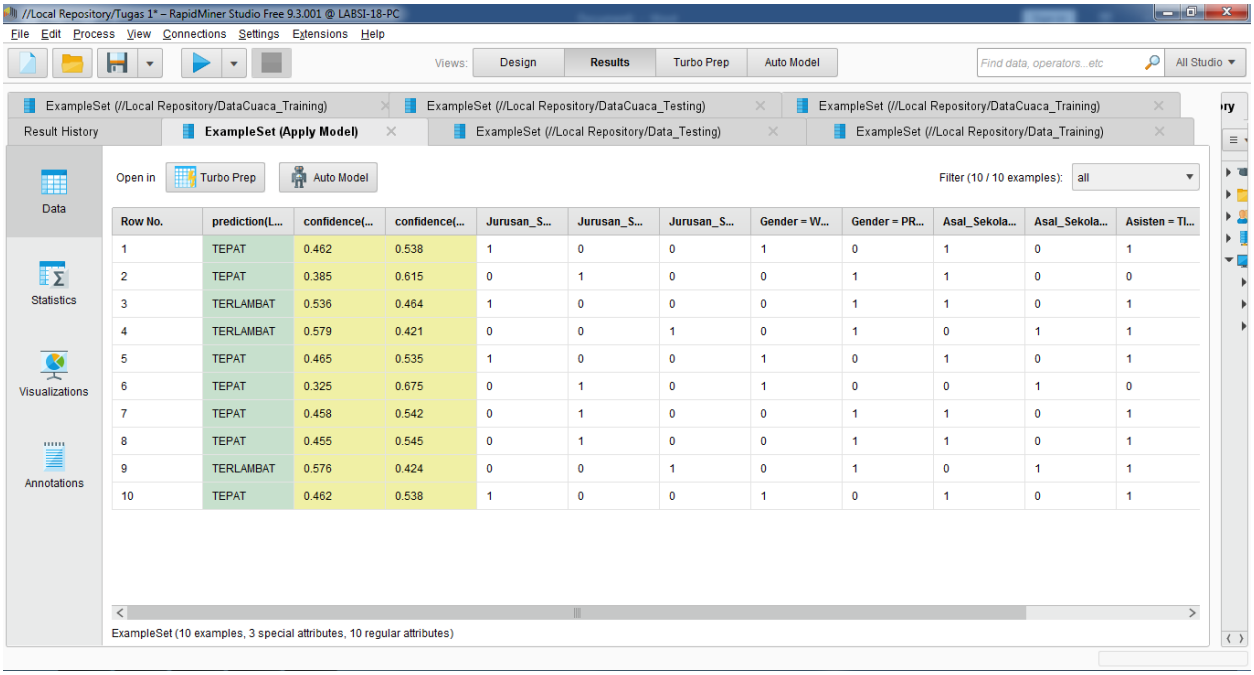

//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
ExampleSet (//Local Repository/Data_Testing)
Neural Net
Description
Annotations
Node 3 (Sigmoid)
Cuaca = Cerah: -0.758
Cuaca = Mendung: 1.156
Cuaca = Hujan: -0.090
Berangin = TIDAK: 0.579
Berangin = YA: -0.633
Suhu: -0.310
Kelembaban_udara: -0.642
Bias: -0.197
Node 4 (Sigmoid)
Cuaca = Cerah: -1.035
Cuaca = Mendung: 1.411
Cuaca = Hujan: -0.099
Berangin = TIDAK: 0.826
Berangin = YA: -0.806
Suhu: -0.432
Kelembaban_udara: -0.708
Bias: -0.204
Node 5 (Sigmoid)
Cuaca = Cerah: -0.677
Cuaca = Mendung: 1.023
Cuaca = Hujan: -0.154
Berangin = TIDAK: 0.520


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
ExampleSet (//Local Repository/Data_Testing)
Neural Net
Description
Annotations
Node 5 (Sigmoid)
Cuaca = Cerah: -0.677
Cuaca = Mendung: 1.023
Cuaca = Hujan: -0.154
Berangin = TIDAK: 0.520
Berangin = YA: -0.514
Suhu: -0.291
Kelembaban_udara: -0.628
Bias: -0.217
Node 6 (Sigmoid)
Cuaca = Cerah: -0.647
Cuaca = Mendung: 1.038
Cuaca = Hujan: -0.086
Berangin = TIDAK: 0.550
Berangin = YA: -0.495
Suhu: -0.290
Kelembaban_udara: -0.564
Bias: -0.236
Output
======
Class 'TIDAK' (Sigmoid)


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
ExampleSet (//Local Repository/Data_Testing)
Neural Net
Description
Annotations
Berangin = YA: -0.495
Suhu: -0.290
Kelembaban_udara: -0.564
Bias: -0.236
Output
======
Class 'TIDAK' (Sigmoid)
Node 1: -0.780
Node 2: -0.384
Node 3: -0.957
Node 4: -1.363
Node 5: -0.816
Node 6: -0.804
Threshold: 1.505
Class 'YA' (Sigmoid)
Node 1: 0.770
Node 2: 0.326
Node 3: 0.976
Node 4: 1.345
Node 5: 0.856
Node 6: 0.810
Threshold: -1.495

TUGAS

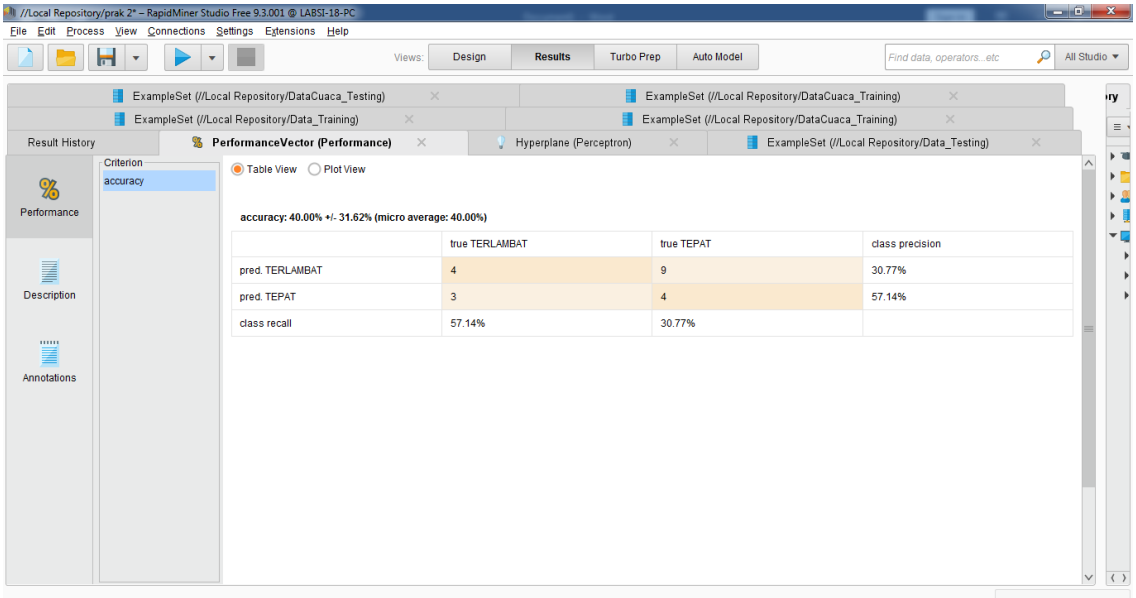

//Local Repository/Tugas 1* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
Repository
Import Data
processes
Data_Testing
Data_Training
DataCuaca_Testi
DataCuaca_Train
prak 1
prak 2
Tugas 1
Operators
perfomance
Predictive (7)
Performance (Classifica
Performance (Binomina
Performance (Regressi
Performance (Costs)
Performance (Ranking)
No results were found.
Process
Process
100%
Retrieve Data_Traini...
Nominal to Numerical
Perceptron
Apply Model
Nominal to Numeric...
Retrieve Data_Testing
Leverage the Wisdom of Crowds to get operator recommendations based on your process design!
Activate Wisdom of Crowds
Parameters
Retrieve Data_Testing (Retrieve)
repository entry
Data_Testing
Show advanced parameters
Help
Retrieve
RapidMiner Studio Core
Tags: Load, Import, Read, Datasets, Examples, Example Set, Table, Repository, Data Access
Synopsis
This Operator can access stored information in the Repository and load them into the Process.



Row No.	prediction(L...	confidence(...	confidence(...	Jurusan_S...	Jurusan_S...	Jurusan_S...	Gender = W...	Gender = PR...	Asal_Sekola...	Asal_Sekola...	Asisten = TI...
1	TEPAT	0.462	0.538	1	0	0	1	0	1	0	1
2	TEPAT	0.385	0.615	0	1	0	0	1	1	0	0
3	TERLAMBAT	0.536	0.464	1	0	0	0	1	1	0	1
4	TERLAMBAT	0.579	0.421	0	0	1	0	1	0	1	1
5	TEPAT	0.465	0.535	1	0	0	1	0	1	0	1
6	TEPAT	0.325	0.675	0	1	0	1	0	0	1	0
7	TEPAT	0.458	0.542	0	1	0	0	1	1	0	1
8	TEPAT	0.455	0.545	0	1	0	0	1	1	0	1
9	TERLAMBAT	0.576	0.424	0	0	1	0	1	0	1	1
10	TEPAT	0.462	0.538	1	0	0	1	0	1	0	1

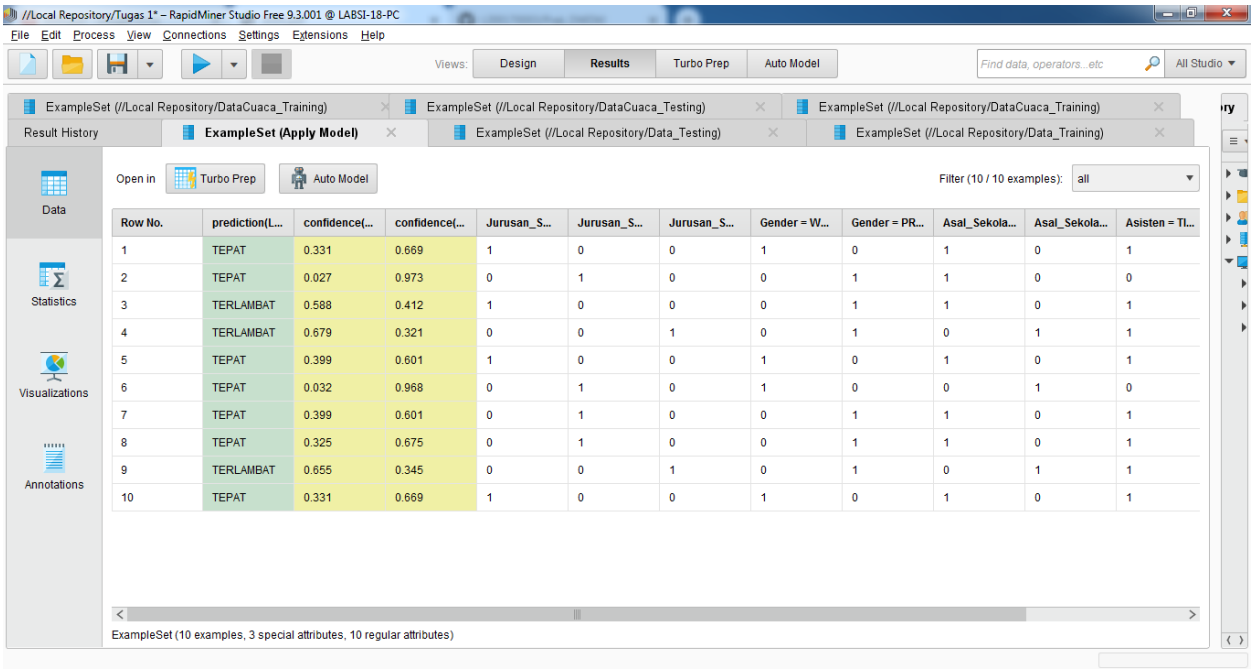
Asisten = YA	Rerata_Sek...
0	18
1	19
0	19
0	17
0	17
1	18
0	18
0	19
0	18
0	18

3. Perfom Percept



	true TERLAMBAT	true TEPAT	class precision
pred. TERLAMBAT	4	9	30.77%
pred. TEPAT	3	4	57.14%
class recall	57.14%	30.77%	

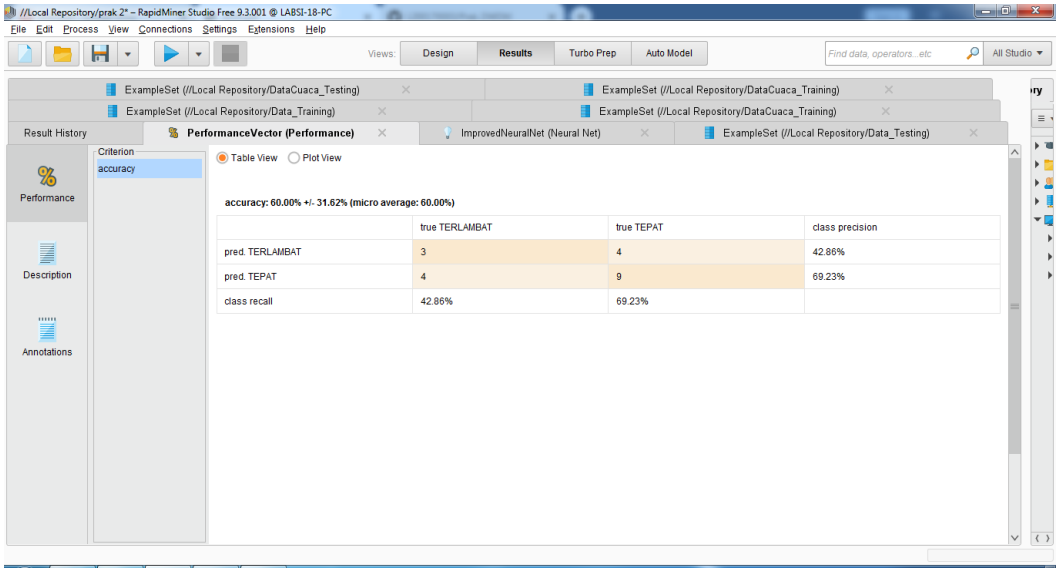
4. Neural Net



Row No.	prediction(L...	confidence(...	confidence(...	Jurusan_S...	Jurusan_S...	Jurusan_S...	Gender = W...	Gender = PR...	Asal_Sekola...	Asal_Sekola...	Asisten = Tl...
1	TEPAT	0.331	0.669	1	0	0	1	0	1	0	1
2	TEPAT	0.027	0.973	0	1	0	0	1	1	0	0
3	TERLAMBAT	0.588	0.412	1	0	0	0	1	1	0	1
4	TERLAMBAT	0.679	0.321	0	0	1	0	1	0	1	1
5	TEPAT	0.399	0.601	1	0	0	1	0	1	0	1
6	TEPAT	0.032	0.968	0	1	0	1	0	0	1	0
7	TEPAT	0.399	0.601	0	1	0	0	1	1	0	1
8	TEPAT	0.325	0.675	0	1	0	0	1	1	0	1
9	TERLAMBAT	0.655	0.345	0	0	1	0	1	0	1	1
10	TEPAT	0.331	0.669	1	0	0	1	0	1	0	1

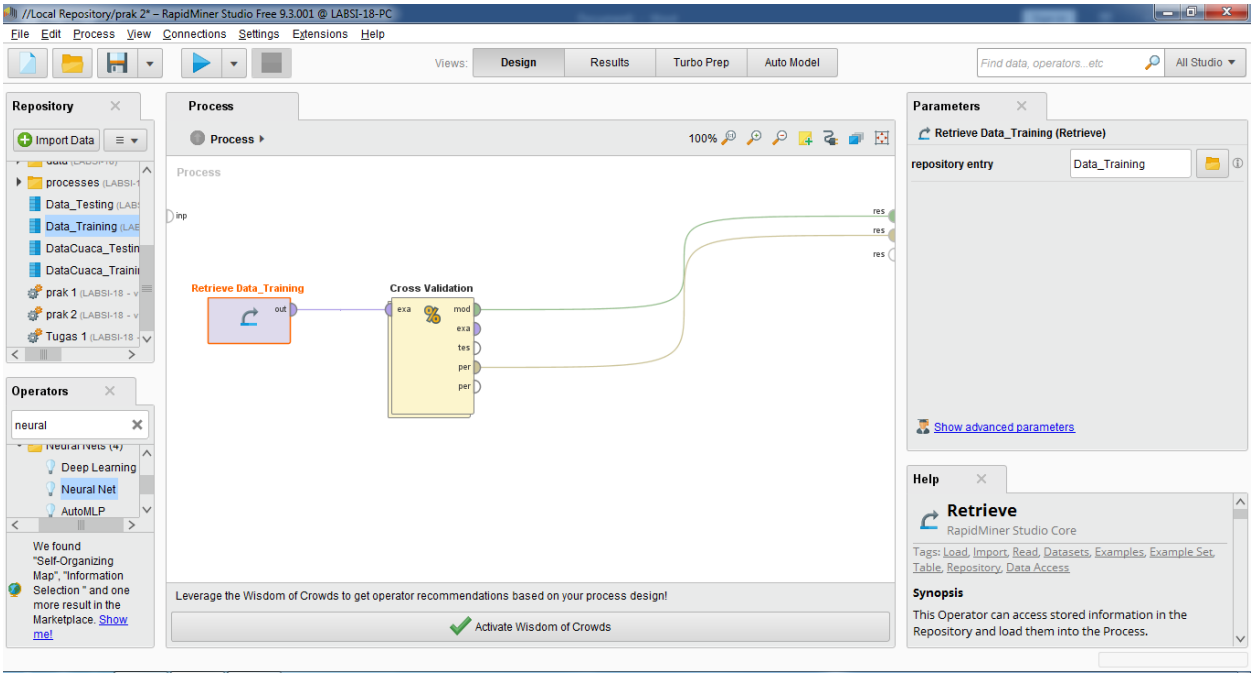
Asisten = YA	Rerata_Sek...
0	18
1	19
0	19
0	17
0	17
1	18
0	18
0	19
0	18
0	18

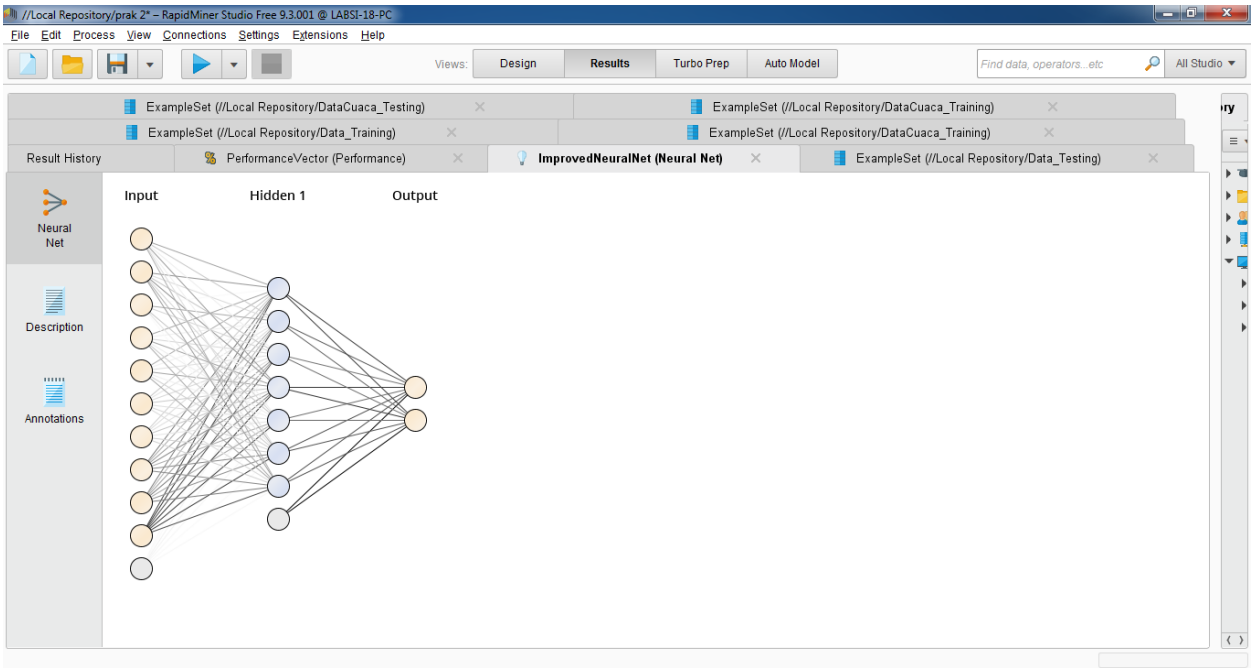
5. Perfomance Vector



	true TERLAMBAT	true TEPAT	class precision
pred. TERLAMBAT	3	4	42.86%
pred. TEPAT	4	9	69.23%
class recall	42.86%	69.23%	

6.

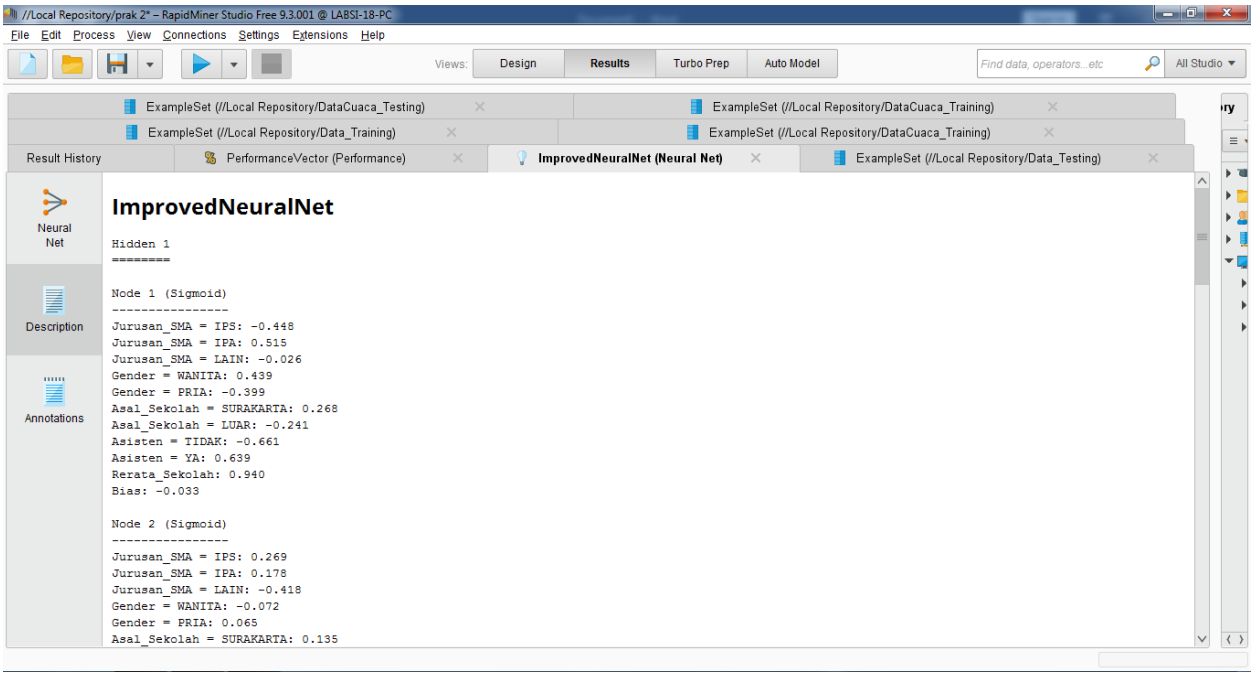




7.

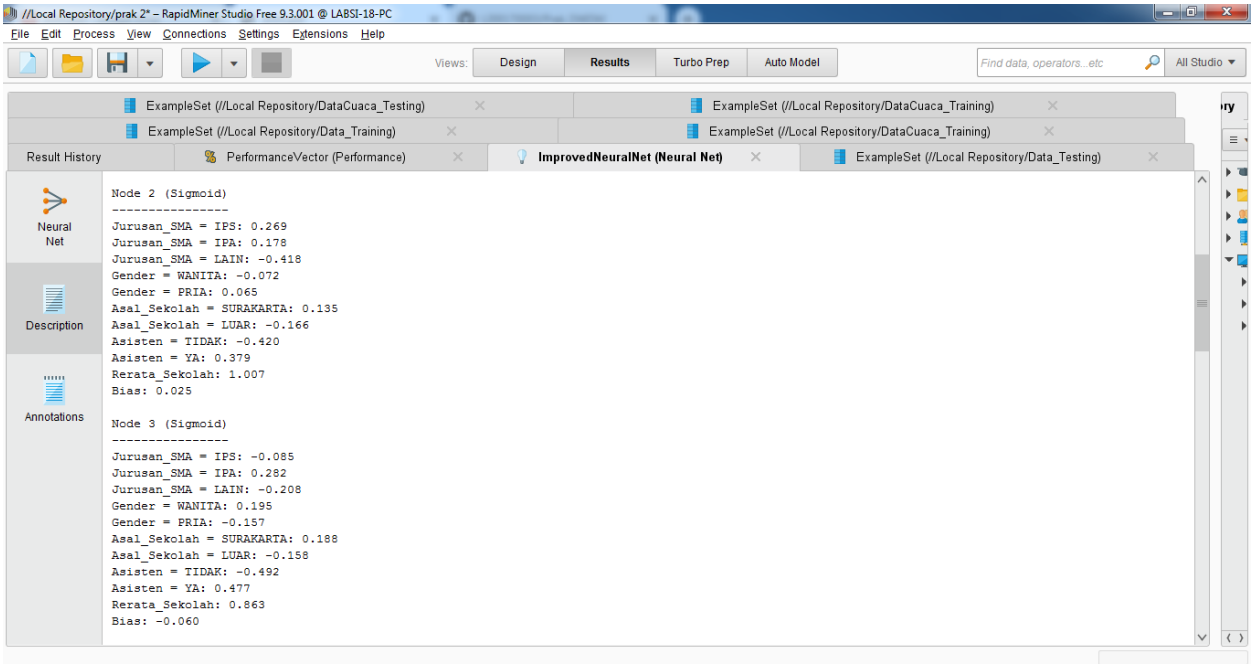
1) **Input Layer = 10 node**
2) **Hidden Layer = 7 node**
3) **Output = 2 node**

8.


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
ExampleSet (//Local Repository/Data_Testing)
Neural Net
Description
Annotations
ImprovedNeuralNet
Hidden 1
========
Node 1 (Sigmoid)

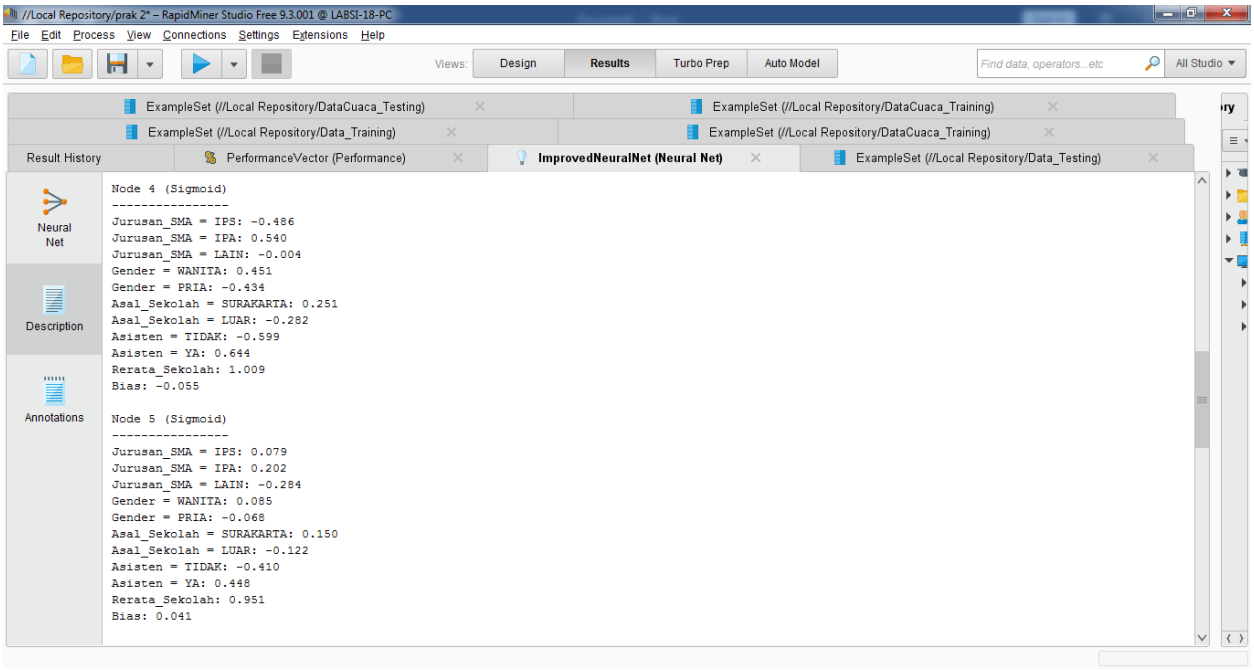
Jurusan_SMA = IPS: -0.448
Jurusan_SMA = IPA: 0.515
Jurusan_SMA = LAIN: -0.026
Gender = WANITA: 0.439
Gender = PRIA: -0.399
Asal_Sekolah = SURAKARTA: 0.268
Asal_Sekolah = LUAR: -0.241
Asisten = TIDAK: -0.661
Asisten = YA: 0.639
Rerata_Sekolah: 0.940
Bias: -0.033
Node 2 (Sigmoid)

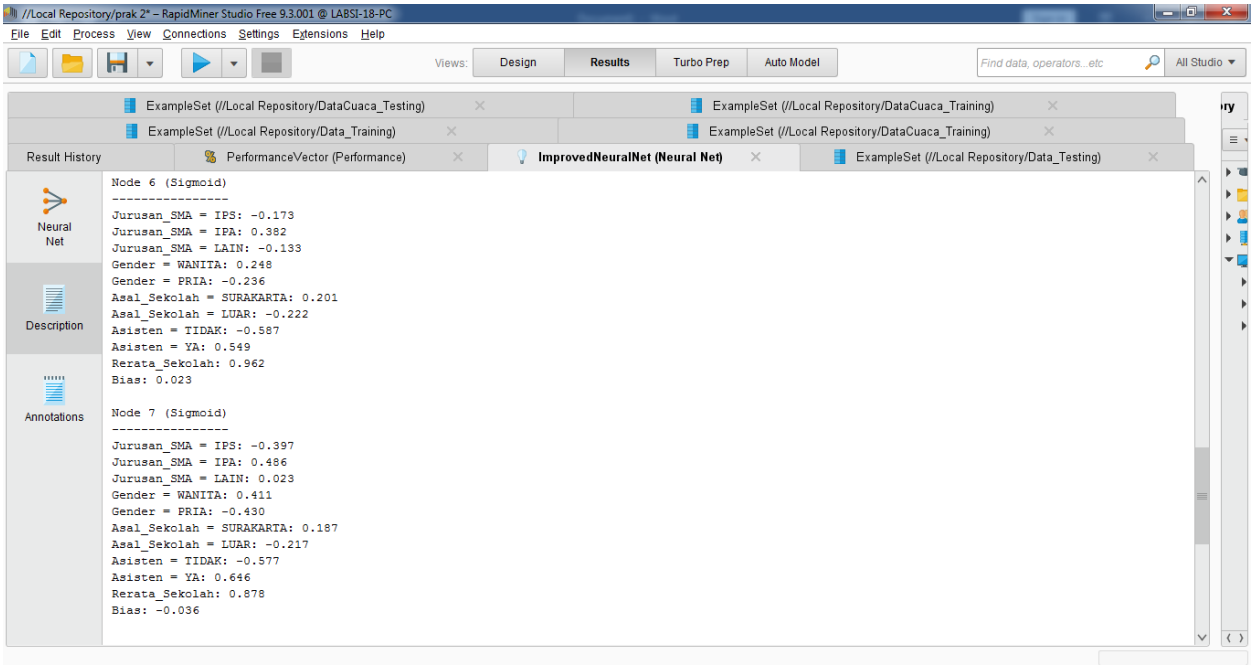
Jurusan_SMA = IPS: 0.269
Jurusan_SMA = IPA: 0.178
Jurusan_SMA = LAIN: -0.418
Gender = WANITA: -0.072
Gender = PRIA: 0.065
Asal_Sekolah = SURAKARTA: 0.135


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
ExampleSet (//Local Repository/Data_Testing)
Neural Net
Description
Annotations
Node 2 (Sigmoid)

Jurusan_SMA = IPS: 0.269
Jurusan_SMA = IPA: 0.178
Jurusan_SMA = LAIN: -0.418
Gender = WANITA: -0.072
Gender = PRIA: 0.065
Asal_Sekolah = SURAKARTA: 0.135
Asal_Sekolah = LUAR: -0.166
Asisten = TIDAK: -0.420
Asisten = YA: 0.379
Rerata_Sekolah: 1.007
Bias: 0.025
Node 3 (Sigmoid)

Jurusan_SMA = IPS: -0.085
Jurusan_SMA = IPA: 0.282
Jurusan_SMA = LAIN: -0.208
Gender = WANITA: 0.195
Gender = PRIA: -0.157
Asal_Sekolah = SURAKARTA: 0.188
Asal_Sekolah = LUAR: -0.158
Asisten = TIDAK: -0.492
Asisten = YA: 0.477
Rerata_Sekolah: 0.863
Bias: -0.060


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc
All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
ExampleSet (//Local Repository/Data_Testing)
Neural Net
Description
Annotations
Node 4 (Sigmoid)
Jurusan_SMA = IPS: -0.486
Jurusan_SMA = IPA: 0.540
Jurusan_SMA = LAIN: -0.004
Gender = WANITA: 0.451
Gender = PRIA: -0.434
Asal_Sekolah = SURAKARTA: 0.251
Asal_Sekolah = LUAR: -0.282
Asisten = TIDAK: -0.599
Asisten = YA: 0.644
Rerata_Sekolah: 1.009
Bias: -0.055
Node 5 (Sigmoid)
Jurusan_SMA = IPS: 0.079
Jurusan_SMA = IPA: 0.202
Jurusan_SMA = LAIN: -0.284
Gender = WANITA: 0.085
Gender = PRIA: -0.068
Asal_Sekolah = SURAKARTA: 0.150
Asal_Sekolah = LUAR: -0.122
Asisten = TIDAK: -0.410
Asisten = YA: 0.448
Rerata_Sekolah: 0.951
Bias: 0.041


//Local Repository/prak 2* – RapidMiner Studio Free 9.3.001 @ LABSI-18-PC
File Edit Process View Connections Settings Extensions Help
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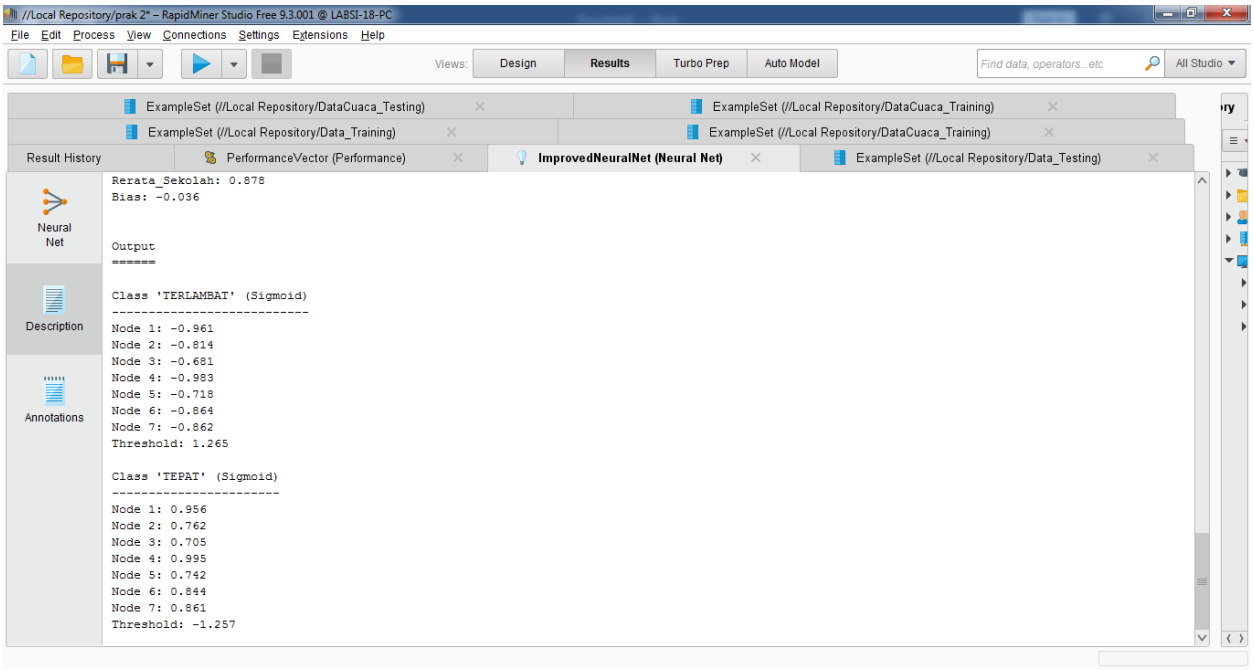
Find data, operators...etc
All Studio
ExampleSet (//Local Repository/DataCuaca_Testing)
ExampleSet (//Local Repository/DataCuaca_Training)
ExampleSet (//Local Repository/Data_Training)
ExampleSet (//Local Repository/DataCuaca_Training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
ExampleSet (//Local Repository/Data_Testing)
Neural Net
Description
Annotations
Node 6 (Sigmoid)
Jurusan_SMA = IPS: -0.173
Jurusan_SMA = IPA: 0.382
Jurusan_SMA = LAIN: -0.133
Gender = WANITA: 0.248
Gender = PRIA: -0.236
Asal_Sekolah = SURAKARTA: 0.201
Asal_Sekolah = LUAR: -0.222
Asisten = TIDAK: -0.587
Asisten = YA: 0.549
Rerata_Sekolah: 0.962
Bias: 0.023
Node 7 (Sigmoid)
Jurusan_SMA = IPS: -0.397
Jurusan_SMA = IPA: 0.486
Jurusan_SMA = LAIN: 0.023
Gender = WANITA: 0.411
Gender = PRIA: -0.430
Asal_Sekolah = SURAKARTA: 0.187
Asal_Sekolah = LUAR: -0.217
Asisten = TIDAK: -0.577
Asisten = YA: 0.646
Rerata_Sekolah: 0.878
Bias: -0.036



9. Kesimpulanya

Akurasi Neural lebih besar dari perceptron