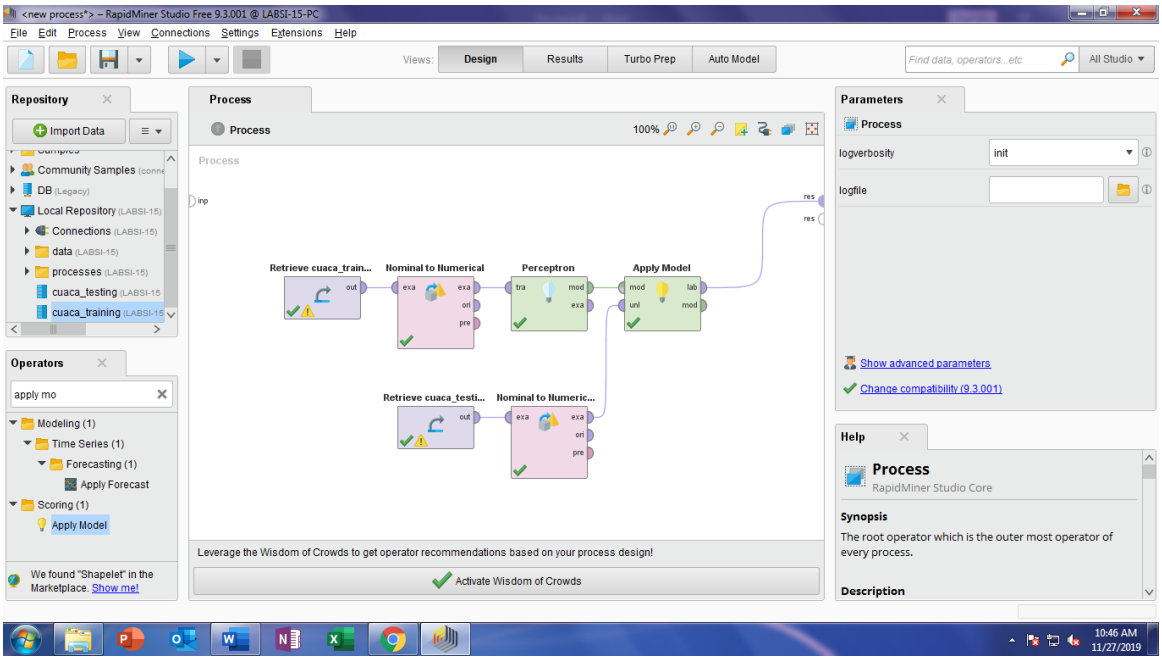
NAMA : ELVY RAHMATILLAH IMAMI

NIM : L200170041

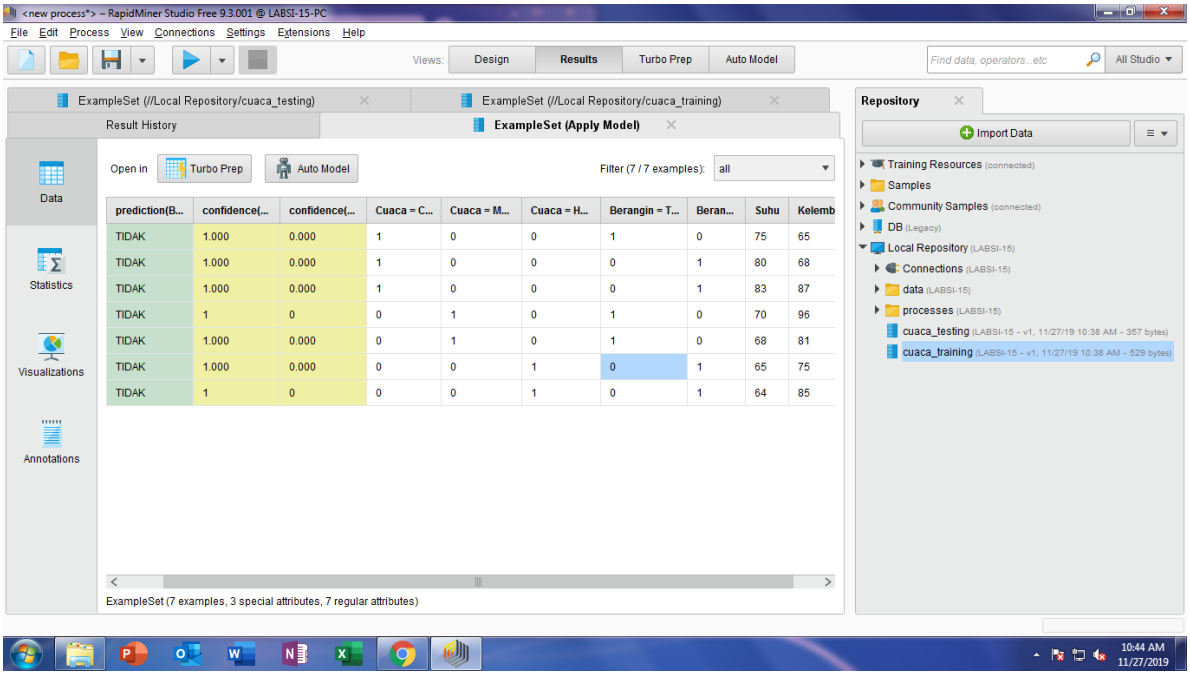
MODUL 8

PREDIKSI NILAI KELAS ATRIBUT DENGAN NEURON PERCEPTRON

Rangkaian :

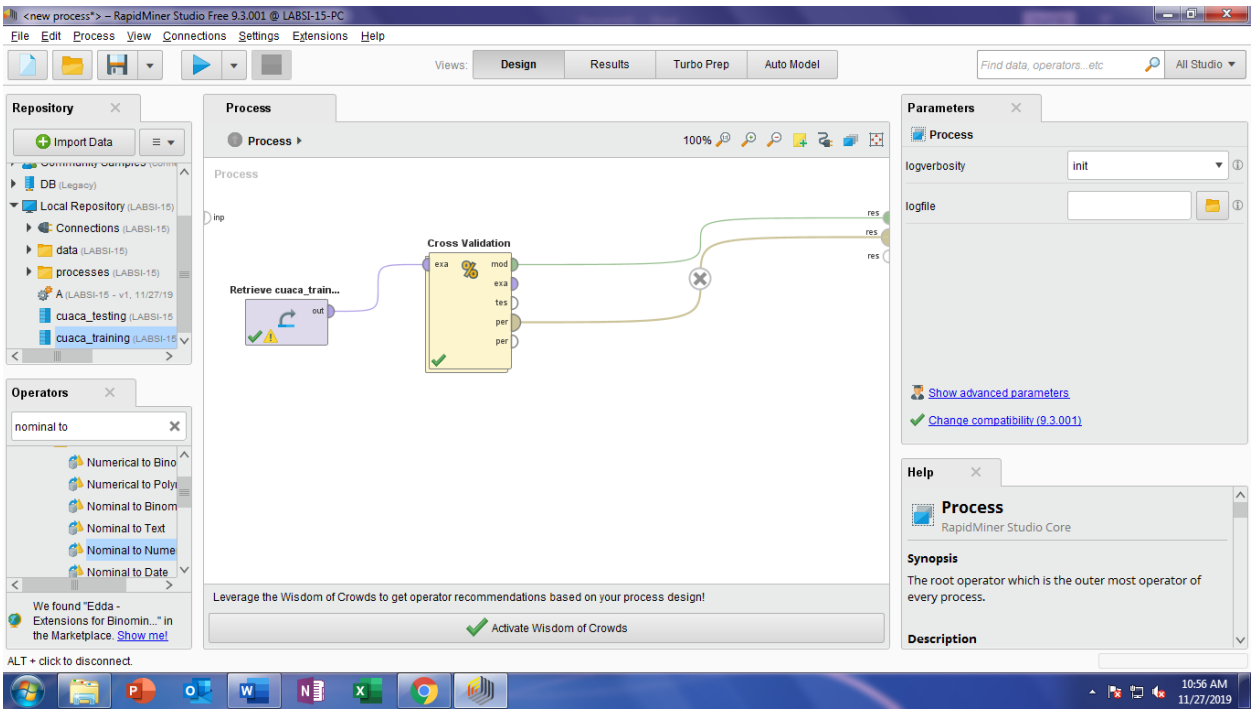


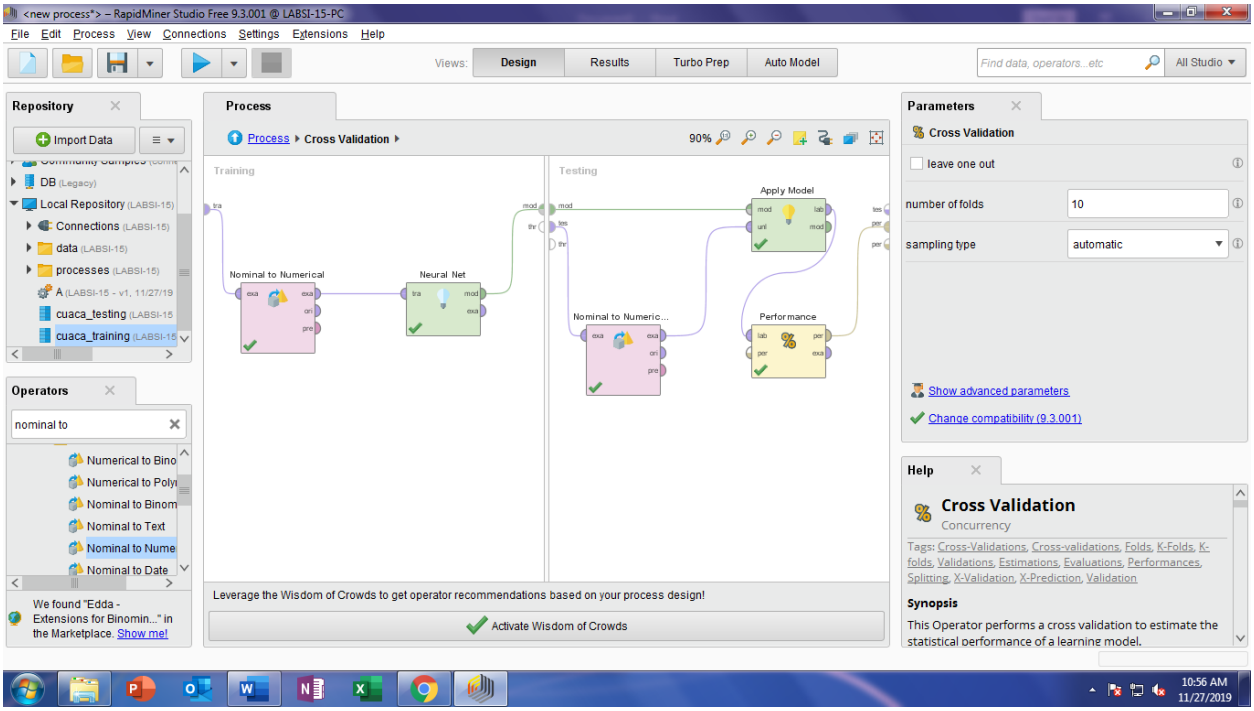
Hasil :



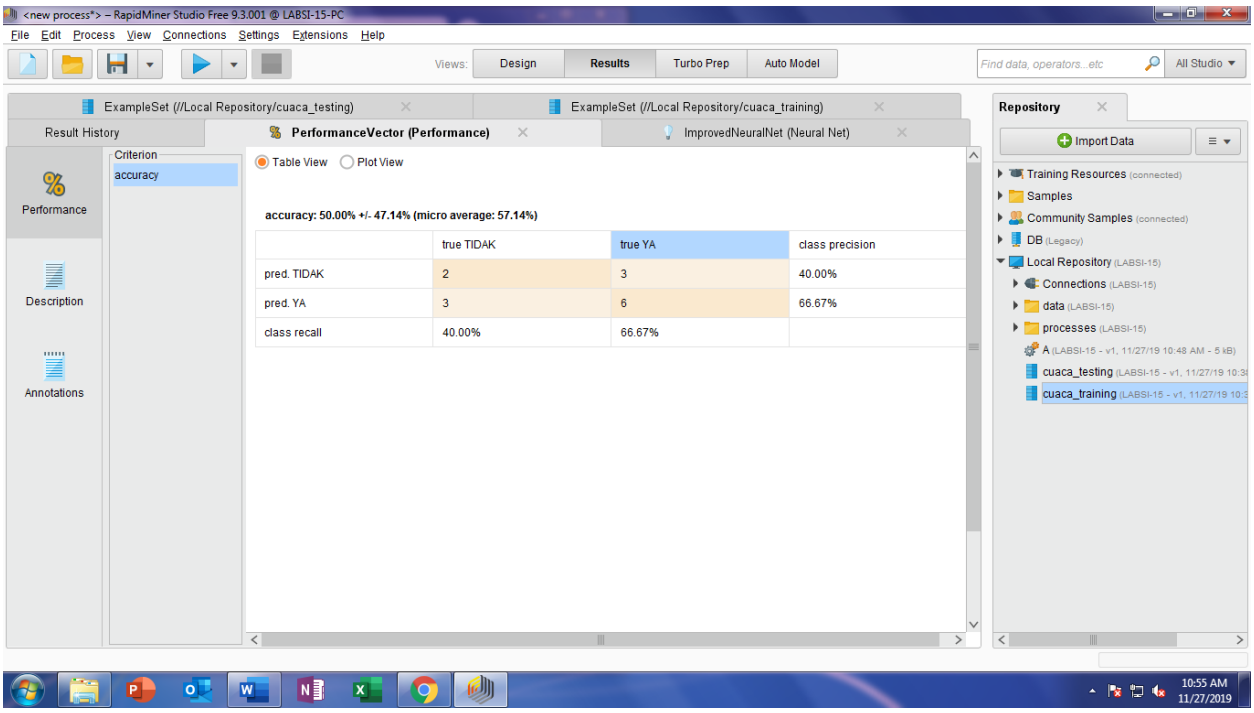
MENGETAHUI NILAI PERFORMANCE VECTOR PADA JARINGAN SARAF TIRUAN

Rangkaian :

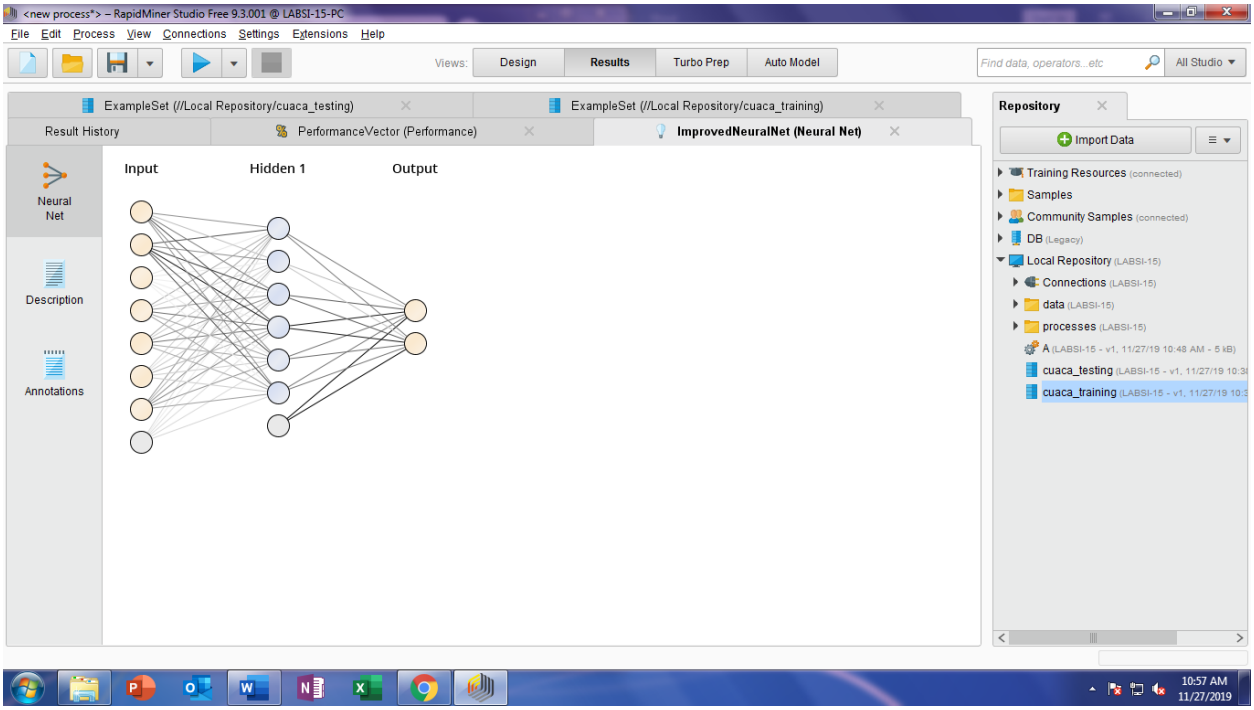



<new process*> – RapidMiner Studio Free 9.3.001 @ LABSI-15-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Repository
Import Data
DB (Legacy)
Local Repository (LABSI-15)
Connections (LABSI-15)
data (LABSI-15)
processes (LABSI-15)
cuaca_testing (LABSI-15
cuaca_training (LABSI-15
Operators
nominal to
Numerical to Bino
Numerical to Polyt
Nominal to Binom
Nominal to Text
Nominal to Nume
Nominal to Date
We found "Edda - Extensions for Binomin..." in the Marketplace. Show me!
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
Cross Validation
leave one out
number of folds
10
sampling type
automatic
Show advanced parameters
Change compatibility (9.3.001)
Help
Cross Validation
Concurrency
Tags: Cross-Validations, Cross-validations, Folds, K-Folds, K-folds, Validations, Estimations, Evaluations, Performances, Splitting, X-Validation, X-Prediction, Validation
Synopsis
This Operator performs a cross validation to estimate the statistical performance of a learning model.
10:56 AM
11/27/2019

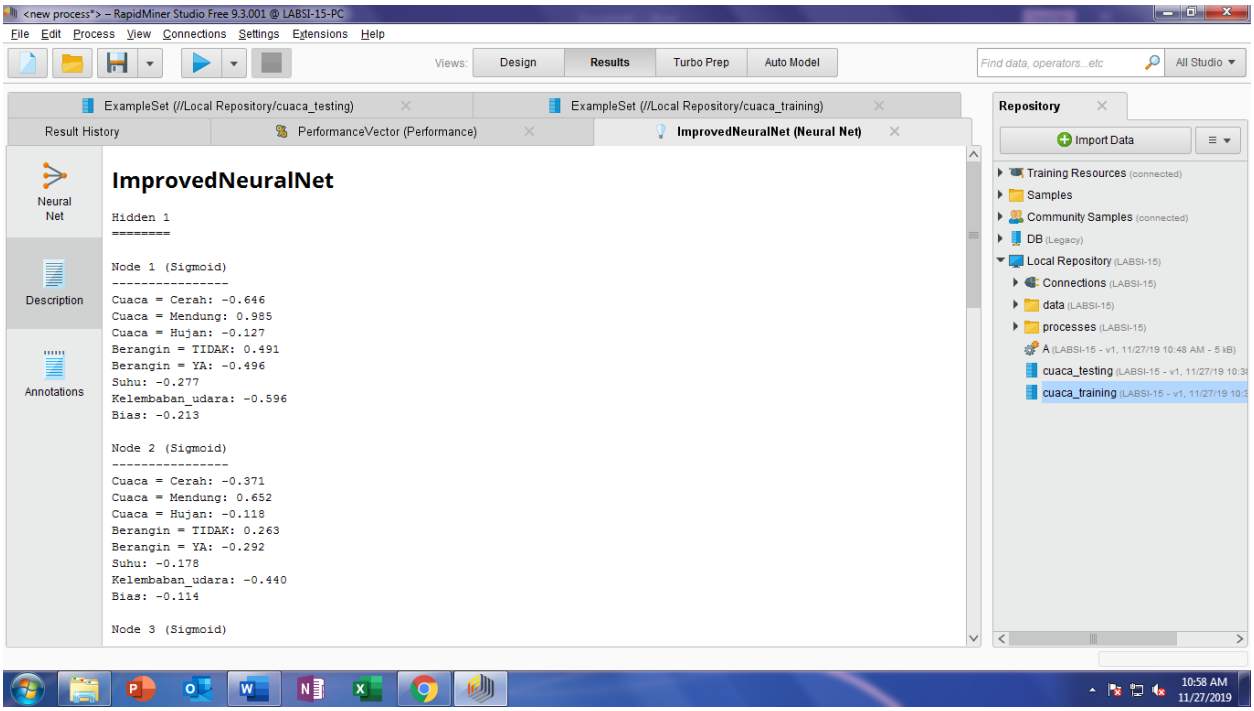
Hasil :

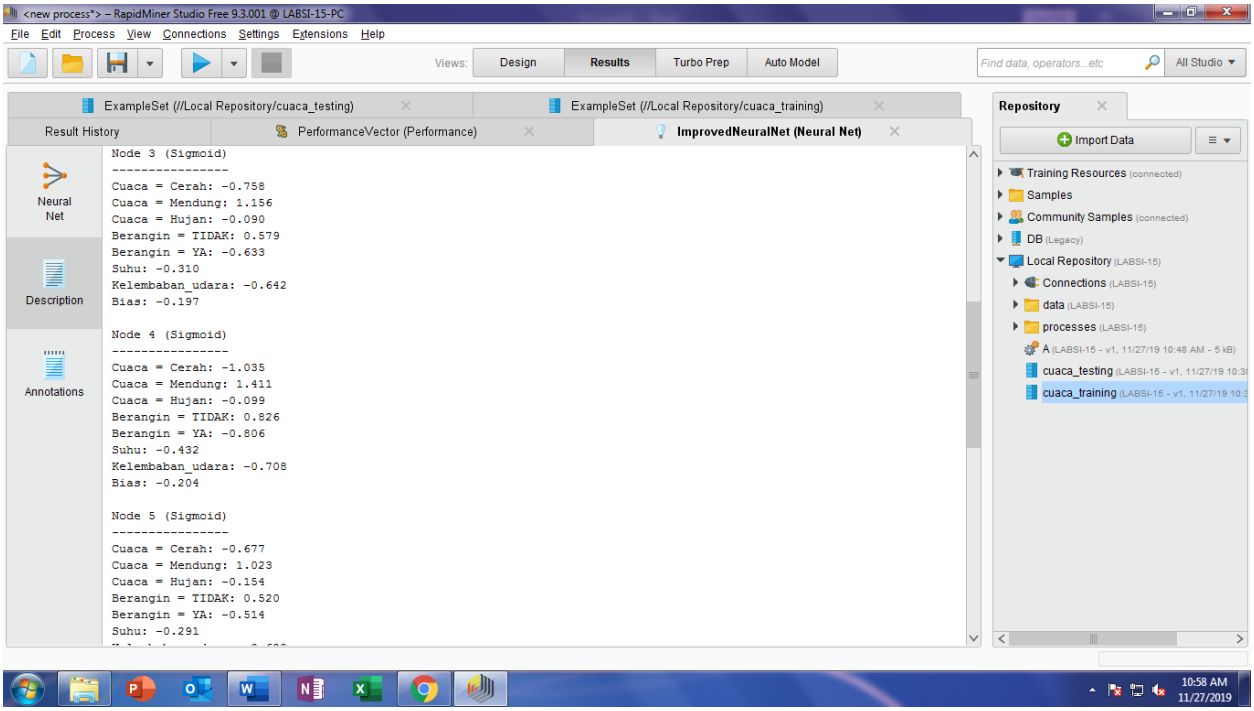

<new process*> – RapidMiner Studio Free 9.3.001 @ LABSI-15-PC
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
ExampleSet (//Local Repository/cuaca_testing)
ExampleSet (//Local Repository/cuaca_training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
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%
Repository
Import Data
Training Resources (connected)
Samples
Community Samples (connected)
DB (Legacy)
Local Repository (LABSI-15)
Connections (LABSI-15)
data (LABSI-15)
processes (LABSI-15)
cuaca_testing (LABSI-15 - v1, 11/27/19
cuaca_training (LABSI-15 - v1, 11/27/19
10:55 AM
11/27/2019

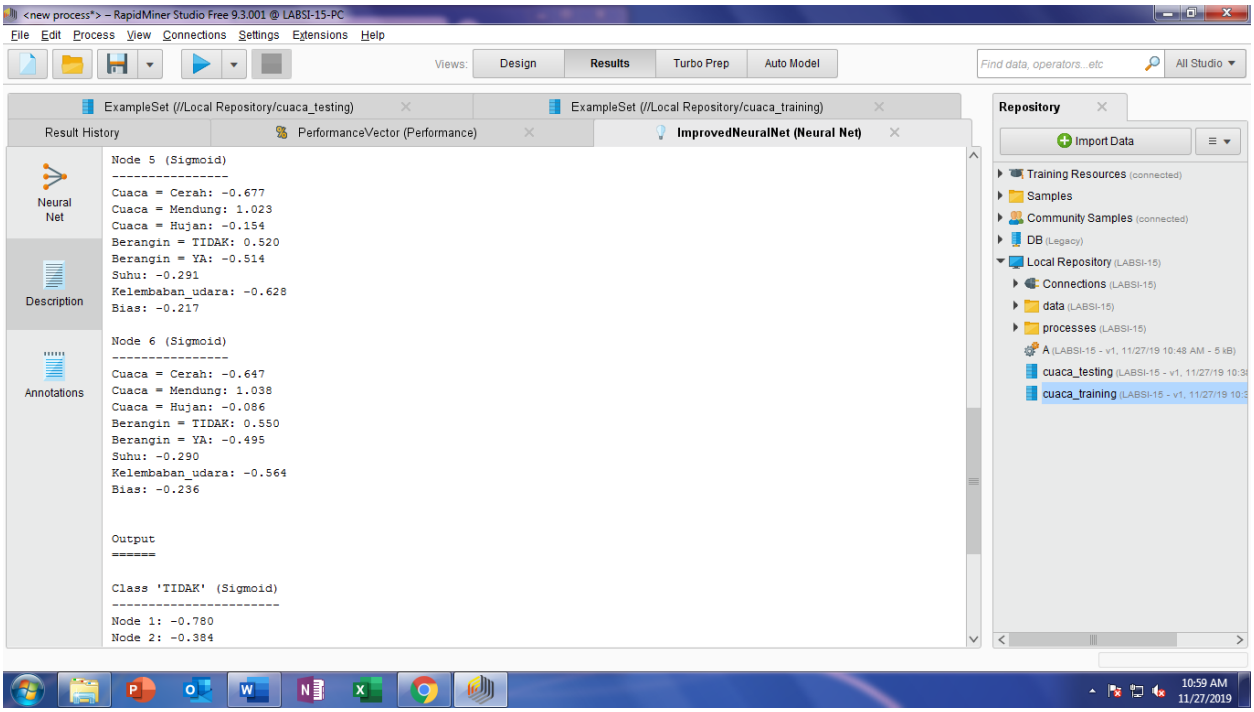
Hasil Neural Net :



Hasil Description :




<new process*> – RapidMiner Studio Free 9.3.001 @ LABSI-15-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/cuaca_testing)
ExampleSet (//Local Repository/cuaca_training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
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
Berangin = YA: -0.514
Suhu: -0.291
Repository
Import Data
Training Resources (connected)
Samples
Community Samples (connected)
DB (Legacy)
Local Repository (LABSI-15)
Connections (LABSI-15)
data (LABSI-15)
processes (LABSI-15)
cuaca_testing
cuaca_training
10:58 AM
11/27/2019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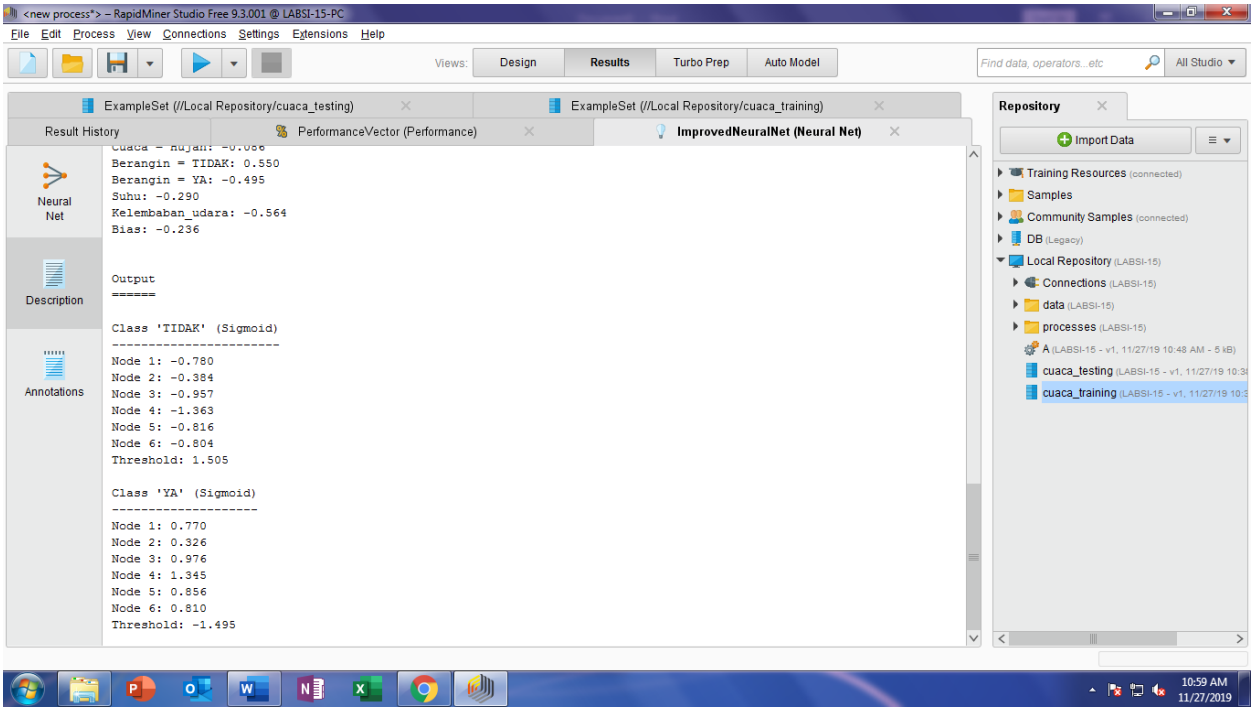
File Edit Process View Connections Settings Extensions Help
Views: Design Results Turbo Prep Auto Model
Find data, operators...etc All Studio
ExampleSet (//Local Repository/cuaca_testing)
ExampleSet (//Local Repository/cuaca_training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
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)
Node 1: -0.780
Node 2: -0.384
Repository
Import Data
Training Resources (connected)
Samples
Community Samples (connected)
DB (Legacy)
Local Repository (LABSI-15)
Connections (LABSI-15)
data (LABSI-15)
processes (LABSI-15)
cuaca_testing
cuaca_training
10:59 AM
11/27/2019


<new process*> – RapidMiner Studio Free 9.3.001 @ LABSI-15-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/cuaca_testing)
ExampleSet (//Local Repository/cuaca_training)
Result History
PerformanceVector (Performance)
ImprovedNeuralNet (Neural Net)
Neural Net
Description
Annotations
Berangin = TIDAK: 0.550
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
Repository
Import Data
Training Resources (connected)
Samples
Community Samples (connected)
DB (Legacy)
Local Repository (LABSI-15)
Connections (LABSI-15)
data (LABSI-15)
processes (LABSI-15)
cuaca_testing (LABSI-15 - v1, 11/27/19 10:3
cuaca_training (LABSI-15 - v1, 11/27/19 10:3
10:59 AM
11/27/2019

TUGAS

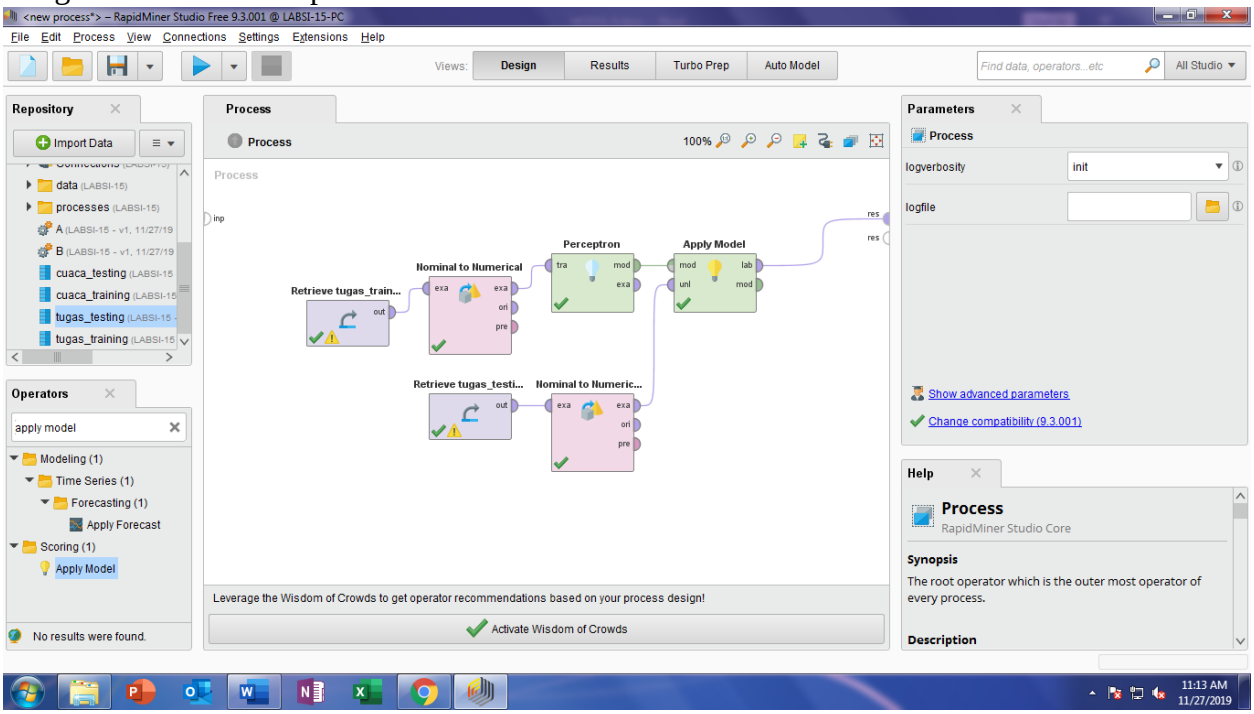
1. Data Training :

	A	B	C	D	E	F
1	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_Sekolah	Asisten	Lama_Studi
2	IPS	WANITA	SURAKARTA	18	TIDAK	TERLAMBAT
3	IPA	PRIA	SURAKARTA	19	YA	TEPAT
4	LAIN	PRIA	SURAKARTA	19	TIDAK	TERLAMBAT
5	IPA	PRIA	LUAR	17	TIDAK	TERLAMBAT
6	IPA	WANITA	SURAKARTA	17	TIDAK	TEPAT
7	IPA	WANITA	LUAR	18	YA	TEPAT
8	IPA	PRIA	SURAKARTA	18	TIDAK	TERLAMBAT
9	IPA	PRIA	SURAKARTA	19	TIDAK	TEPAT
10	IPS	PRIA	LUAR	18	TIDAK	TERLAMBAT
11	LAIN	WANITA	SURAKARTA	18	TIDAK	TEPAT
12	IPA	WANITA	SURAKARTA	19	TIDAK	TEPAT
13	IPS	PRIA	SURAKARTA	20	TIDAK	TEPAT
14	IPS	PRIA	SURAKARTA	19	TIDAK	TEPAT
15	IPA	PRIA	SURAKARTA	19	TIDAK	TEPAT
16	IPA	PRIA	LUAR	22	YA	TEPAT
17	LAIN	PRIA	SURAKARTA	16	TIDAK	TERLAMBAT
18	IPS	PRIA	LUAR	20	TIDAK	TEPAT
19	LAIN	PRIA	LUAR	23	YA	TEPAT
20	IPA	PRIA	SURAKARTA	21	YA	TEPAT
21	IPS	PRIA	SURAKARTA	19	TIDAK	TERLAMBAT
22						

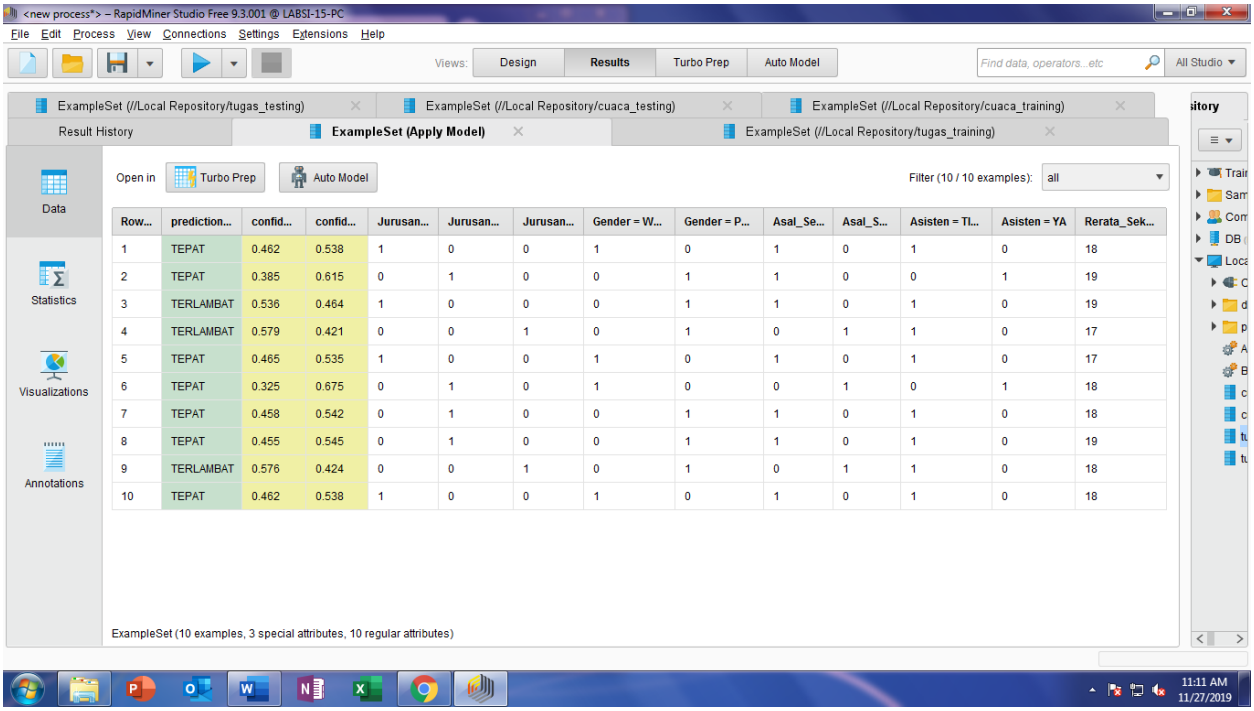
Data Testing :

	A	B	C	D	E
1	Jurusan_SMA	Gender	Asal_Sekolah	Rerata_Sekolah	Asisten
2	LAIN	WANITA	SURAKARTA	18	TIDAK
3	IPA	PRIA	SURAKARTA	19	YA
4	LAIN	PRIA	SURAKARTA	19	TIDAK
5	IPS	PRIA	LUAR	17	TIDAK
6	LAIN	WANITA	SURAKARTA	17	TIDAK
7	IPA	WANITA	LUAR	18	YA
8	IPA	PRIA	SURAKARTA	18	TIDAK
9	IPA	PRIA	SURAKARTA	19	TIDAK
10	IPS	PRIA	LUAR	18	TIDAK
11	LAIN	WANITA	SURAKARTA	18	TIDAK
12					

2. Rangkaian Model Perceptron :

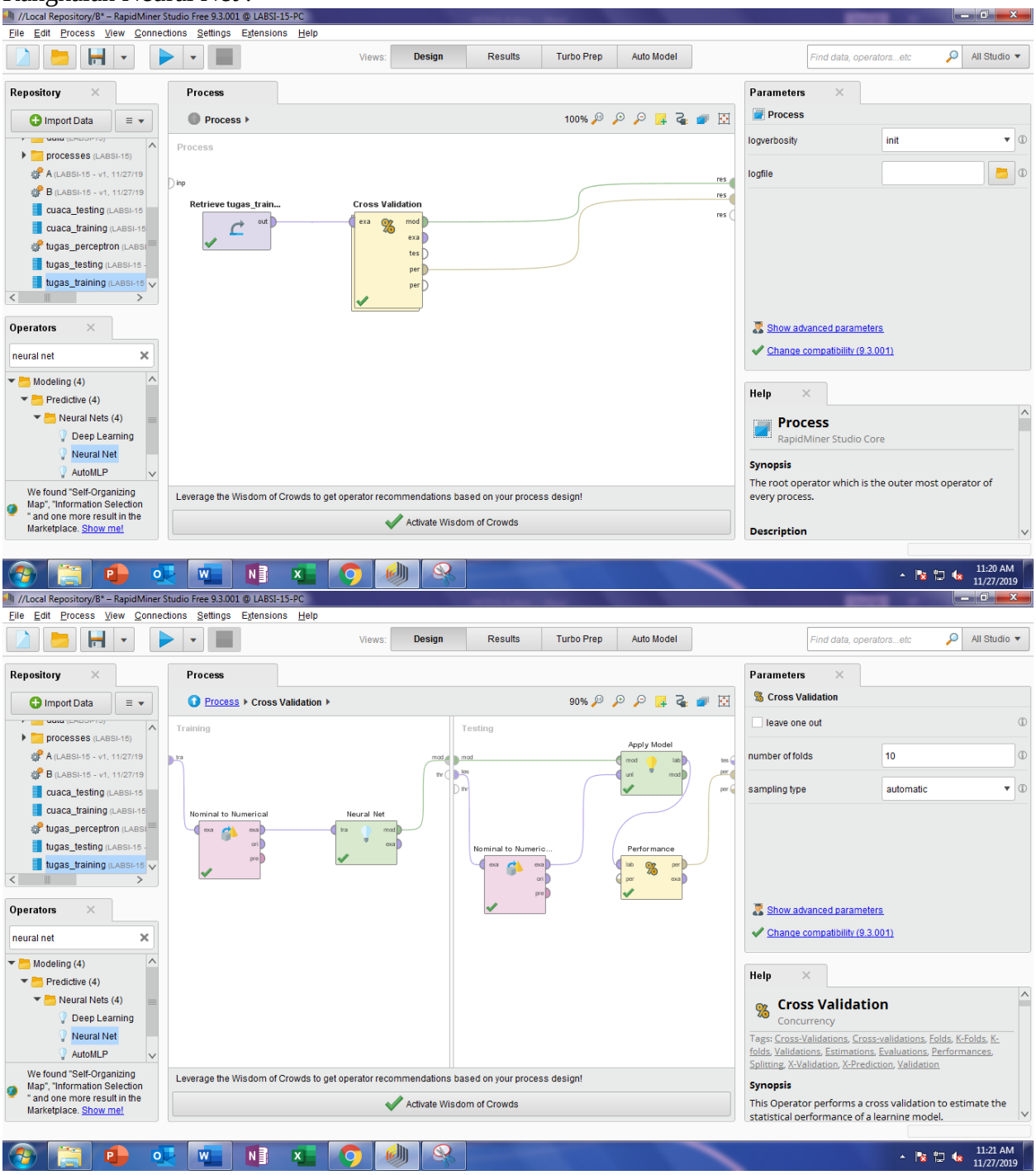


Hasil :

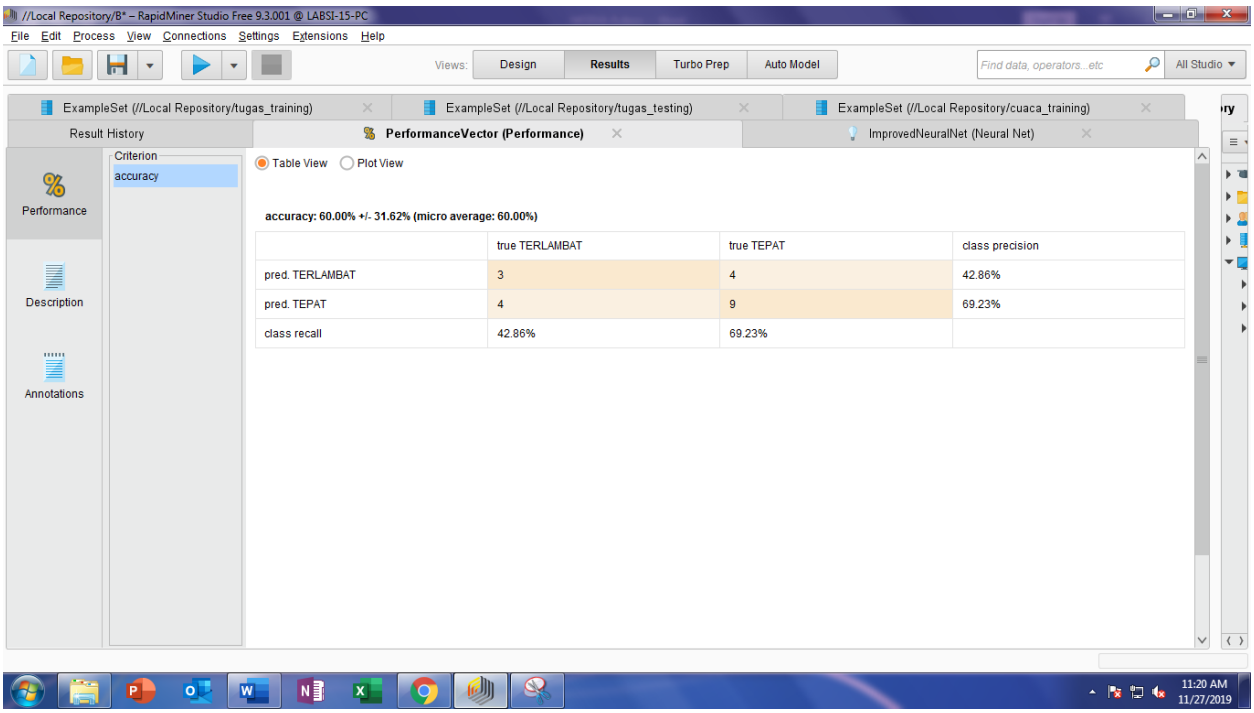


Row...	prediction...	confid...	confid...	Jurusan...	Jurusan...	Jurusan...	Gender = W...	Gender = P...	Asal_Se...	Asal_S...	Asisten = Ti...	Asisten = YA	Rerata_Sek...
1	TEPAT	0.462	0.538	1	0	0	1	0	1	0	1	0	18
2	TEPAT	0.385	0.615	0	1	0	0	1	1	0	0	1	19
3	TERLAMBAT	0.536	0.464	1	0	0	0	1	1	0	1	0	19
4	TERLAMBAT	0.579	0.421	0	0	1	0	1	0	1	1	0	17
5	TEPAT	0.465	0.535	1	0	0	1	0	1	0	1	0	17
6	TEPAT	0.325	0.675	0	1	0	1	0	0	1	0	1	18
7	TEPAT	0.458	0.542	0	1	0	0	1	1	0	1	0	18
8	TEPAT	0.455	0.545	0	1	0	0	1	1	0	1	0	19
9	TERLAMBAT	0.576	0.424	0	0	1	0	1	0	1	1	0	18
10	TEPAT	0.462	0.538	1	0	0	1	0	1	0	1	0	18

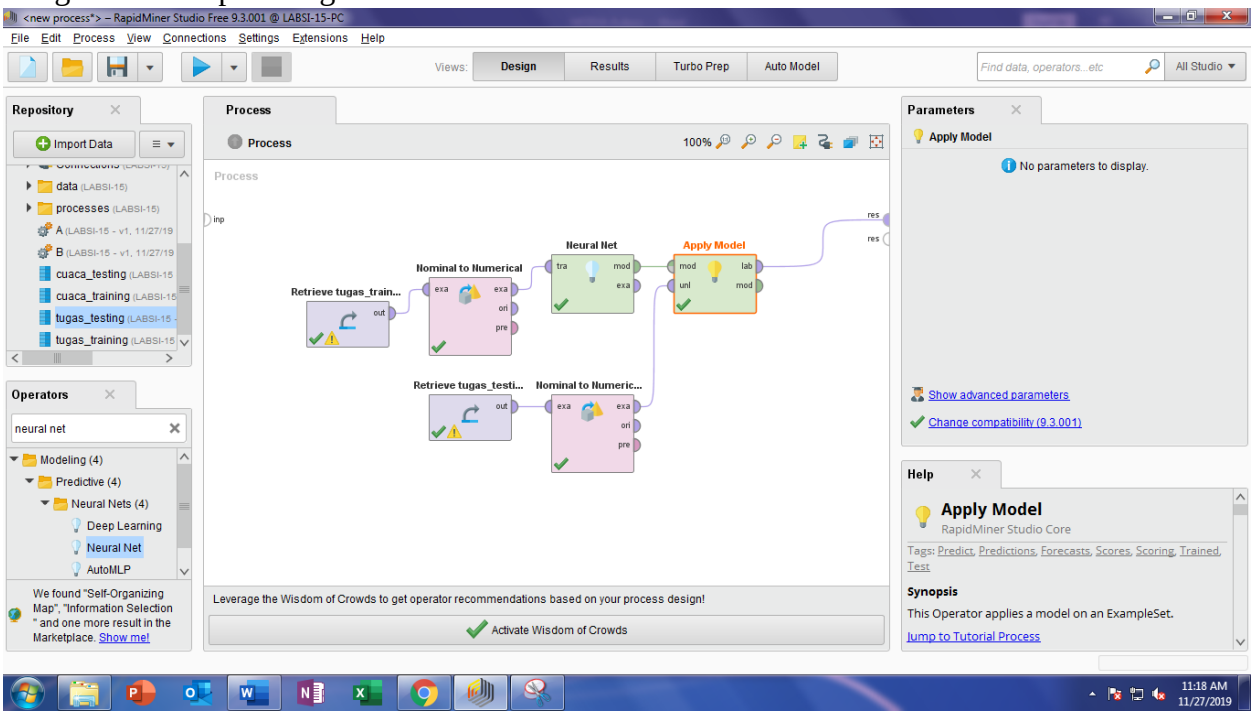
3. Rangkaian Neural Net :



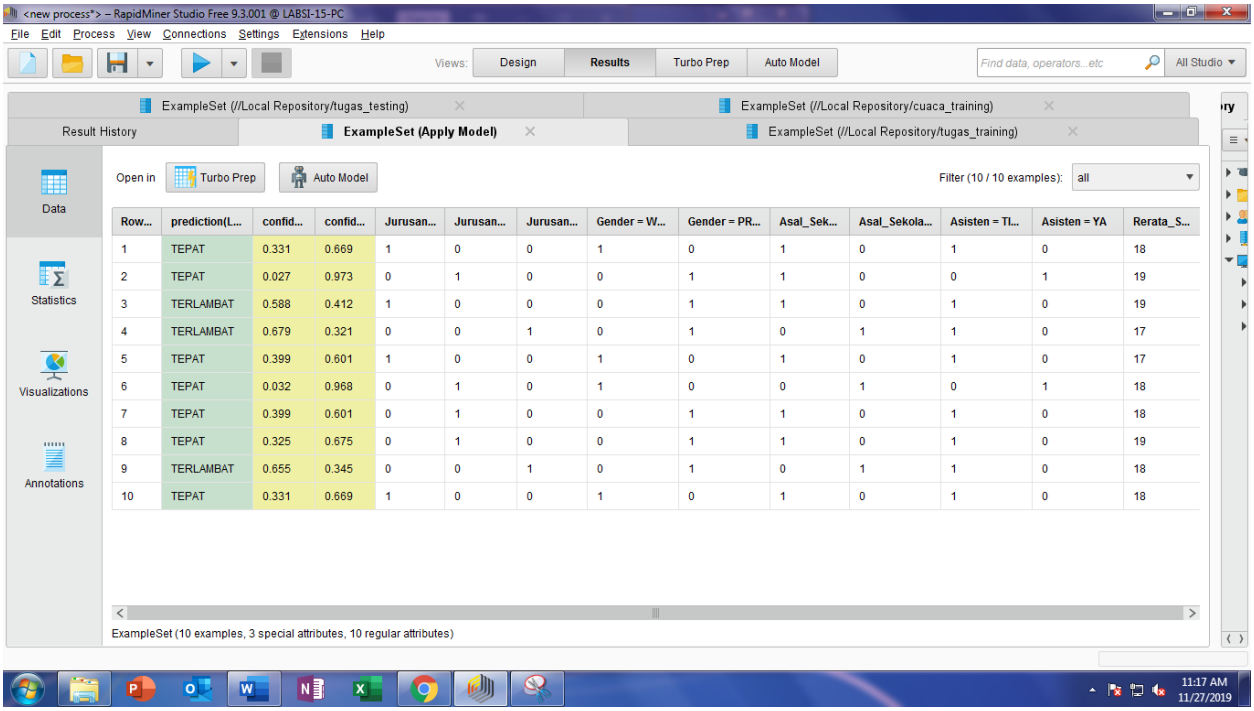
Hasil :



4. Rangkaian Perceptron diganti Neural Net :

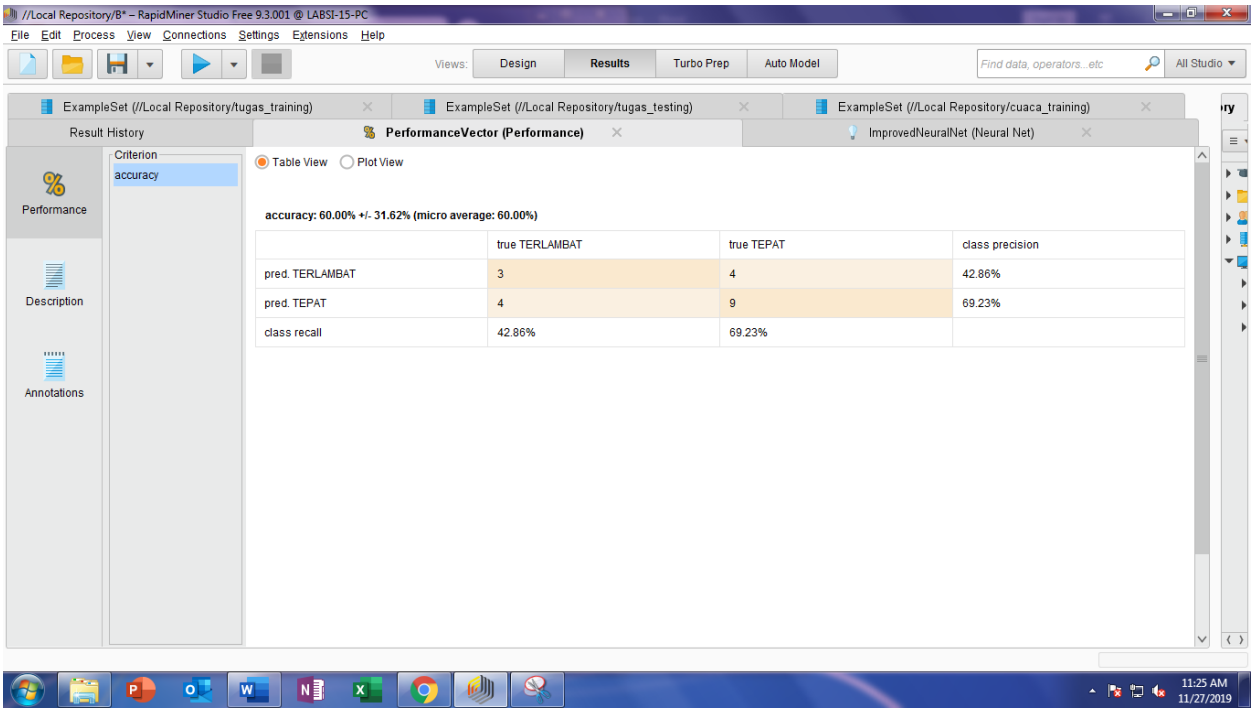


Hasil :

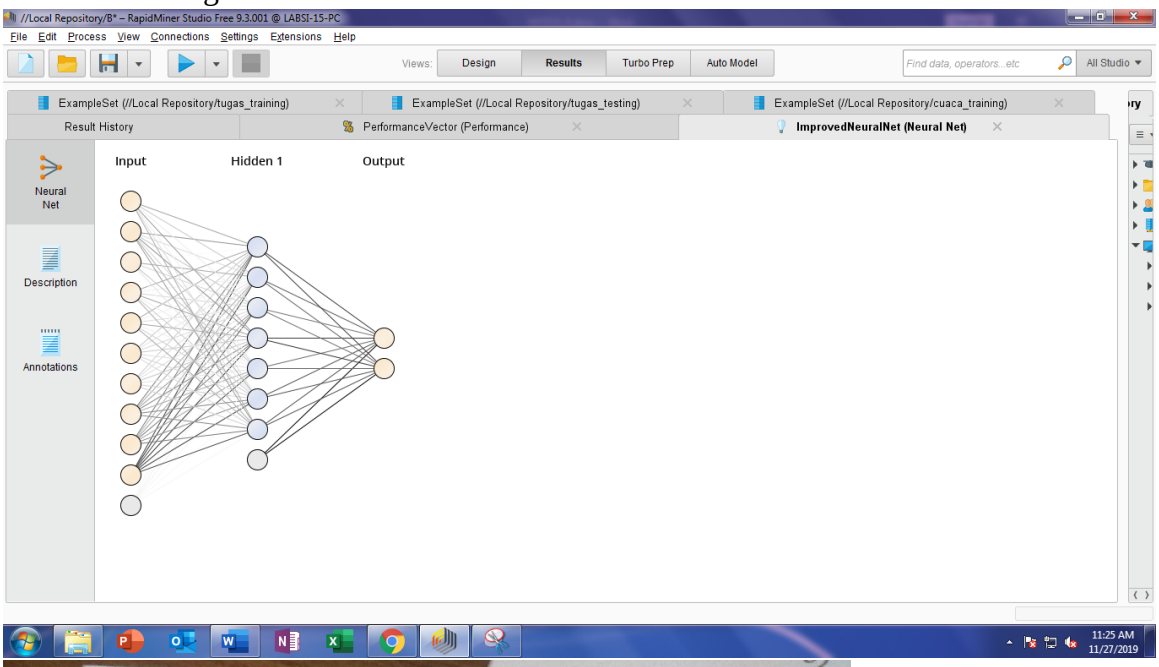


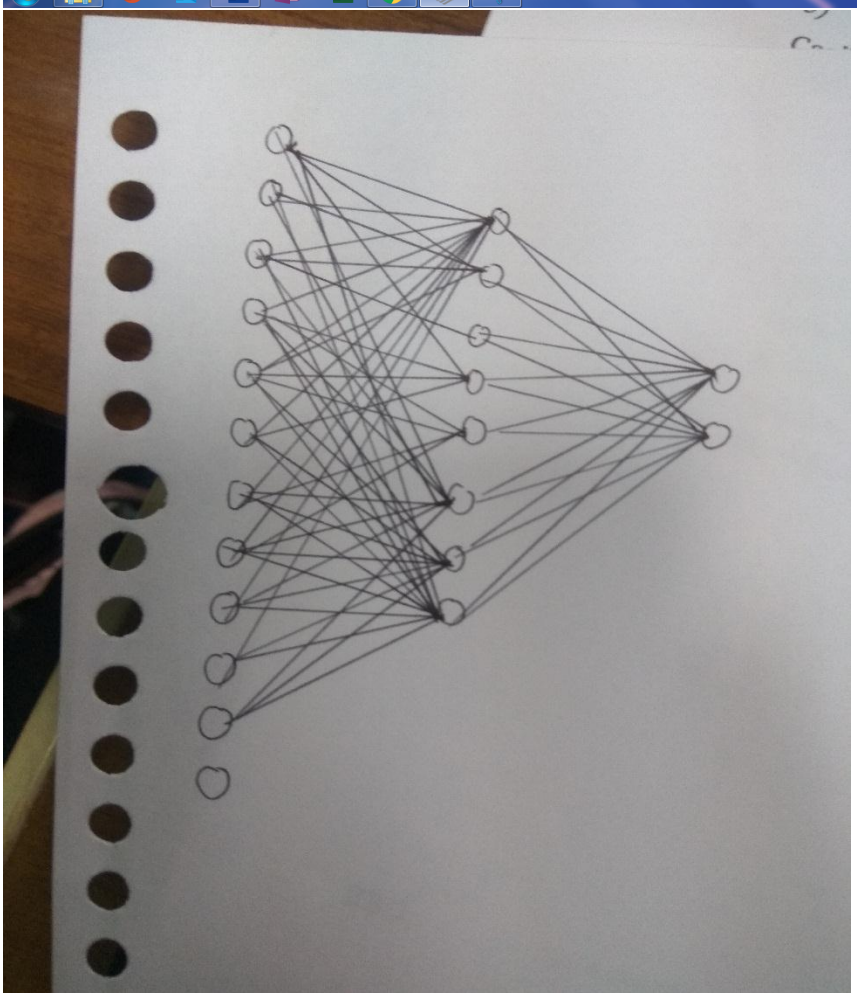
Perubahan yang terjadi yaitu nilai confidence TERLAMBAT dan nilai confidence TEPAT berubah

5. Hasil :



6. Arsitektur Jaringan Saraf :





7. Jumlah node :
   a. Input layer : 10 node input, 1 node berbobot 1
   b. Hidden layer : 7 node hidden, 1 node berbobot 1
   c. Output layer : 2 node

8. Nilai node output :

```
Output
======

Class 'TERLAMBAT' (Sigmoid)
---------------------------
Node 1: -0.961
Node 2: -0.814
Node 3: -0.681
Node 4: -0.983
Node 5: -0.718
Node 6: -0.864
Node 7: -0.862
Threshold: 1.265

Class 'TEPAT' (Sigmoid)
-----------------------
Node 1: 0.956
Node 2: 0.762
Node 3: 0.705
Node 4: 0.995
Node 5: 0.742
Node 6: 0.844
Node 7: 0.861
Threshold: -1.257
```

Nilai node hidden :

```
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
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

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

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