**Machine Learning – Classification**

**Random Forest - Classification**

**A screenshot of a computer screen

Description automatically generated**

**Confusion Matrix:**

**True Purchased 78 False Purchased 7**

**False Not Purchased 6 True Not Purchased 43**

***Recall:***

***Purchased:***

**True Purchased**

**True Purchased + False Purchased**

**78 0.92**

**78+7**

***Not Purchased:***

**True Not Purchased**

**True Not Purchased + False Not Purchased**

**43 0.88**

**43+6**

***Precision:***

***Purchased:***

**True Purchased**

**True Purchased + False Not Purchased**

**78 0.92**

**78+6**

***Not Purchased:***

**True Not Purchased**

**True Not Purchased + False Purchased**

**43 0.86**

**43+7**

***F-1 Measure:***

***Purchased:***

***2 \* Recall(*Purchased*) \* Precision(*Purchased*)***

***Recall(*Purchased*) + Precision(*Purchased*)***

**0.92 \* 0.93**

**2 \* 0.92**

**0.92 + 0.93**

***Not Purchased:***

***2 \* Recall(Not* Purchased*) \* Precision(Not* Purchased*)***

***Recall(Not* Purchased*) + Precision(Not* Purchased*)***

**0.88 \* 0.86**

**2 \* 0.87**

**0.88 + 0.86**

***Macro Average:***

***Precision:***

***Precision(*Purchased*) + Precision(Not* Purchased*)***

***2***

**0.93+0.86**

**0.89**

**2**

***Recall:***

***Recall(*Purchased*) + Recall(Not* Purchased*)***

***2***

**0.92+0.88**

**0.90**

**2**

***F-1 Measure:***

***F–1 (*Purchased*) + F–1 (Not* Purchased*)***

***2***

**0.92+0.87**

**0.90**

**2**

***Weighted Average:***

***Precision:***

***Precision(*Purchased*) \* Total Purchased + Precision(Not* Purchased*) \* Total Not Purchased***

***Total set Total set***

***84 49***

***0.93 \* + 0.86 \* 0.90***

***134 134***

***Recall:***

***Recall(*Purchased*) \* Total Purchased + Recall (Not* Purchased*) \* Total Not Purchased***

***Total set Total set***

***84 49***

***0.92 \* + 0.88 \* 0.90***

***134 134***

***F1 – Measure:***

***F-1(*Purchased*) \* Total Purchased + F-1 (Not* Purchased*) \* Total Not Purchased***

***Total set Total set***

***84 49***

***0.92 \* + 0.87 \* 0.90***

***134 134***

***Accuracy:***

**True Purchased + True Not Purchased**

**True Purchased + True Not Purchased + False Not Purchased + False Purchased**

***78 + 43 0.90***

***78 + 43 + 6 + 7***