**Confusion Matrix Evaluation Matrix**

A screenshot of a computer

AI-generated content may be incorrect.

A chart with text on it

AI-generated content may be incorrect.

1. **Accuracy:**

Not Purchase = 79; Purchased = 41

35 True (Purchased) + 72 False (Not Purchased)

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35 True (Purchased) + 72True (Not Purchased) + 7 False (Purchased) + 6 False (Not Purchased)

= (35 + 72) / (35 + 72 + 6 + 7) = 89%

**2) Recall:** P F **Purchased**; NP F **Not Purchased**

**Purchased:** 35 True (**P**) / 35 True (**P**) + 6 False (**NP**) => 85%

**Not Purchased:** 72 True (**NP**) / 72 True (**NP**) + 7 False (**P**) => 91%

**3) Precision:** P F **Purchased**; NP F **Not Purchased**

**Purchased:** 35 True (**P**) / 35 True (**P**) + 7 False (**P**) => **83%**

**Not Purchased:** 72 True (**NP**) / 72 True (**NP**) + 6 False (**NP**) => **92%**

**4) F1-SCORE:** P F **Purchased**; NP F **Not Purchased**

**Purchased:** 2 \* (Recall \* Precision) / (Recall +Precision)

**2 \* (0.85\*0.83) / (0.85+0.83) => 84%**

**Not Purchased:** 2 \* (Recall \* Precision) / (Recall +Precision)

**2 \* (0.91\*0.92) / (0.91+0.92) => 92%**

**5) Macro Average:**

**Precision:**

Precision (*Purchased*) + Precision (*Not Purchased*) / 2

0.83+0.92 / 2 => **88%**

**Recall:**

Recall (*Purchased*) + Recall (*Not Purchased*) / 2

0.85+0.91 / 2 => **88%**

**6) Weighted Average:** what is the sum of the product of each class

P F **Purchased**; NP F **Not Purchased**

**Precision:**

Precision (***P***) \* (Total Count of **Purchased** in test set / Total Count of Test set)

+  
Precision (***NP***) \* (Total Count of **Not Purchased** in test set / Total Count of Test set)

(0.83\*(**41**/120) + 0.92\*(**79**/120)) => **89%**

**Recall:**

Recall (*Purchased*) + Recall (*Not Purchased*) / 2

(0.85\*(**41**/120) + 0.91\*(**79**/120)) => **89%**

**F1-Meassure:**

Recall (*Purchased*) + Recall (*Not Purchased*) / 2

(0.84\*(**41**/120) + 0.92\*(**79**/120)) => **89%**