Manual Report Classification\_ ComplementNB

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Description automatically generated

A screenshot of a computer screen

Description automatically generated

1. Precision:

|  |  |  |
| --- | --- | --- |
|  | 0 | 1 |
| 0 | 50 | 1 |
| 1 | 23 | 59 |

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Description automatically generated with medium confidence

What is the % of correct classification of (0) to sum of classified as(0) and wrongly classsified as (0) in the test set?

Precision of 0 = TP / (TP + FP)

= T**(0) / T(0)** +**F(1)**

= 50 / (50+23)

= 68 %

What is the % of correct classification of (1) to sum of classified as (1) and wrongly classsified as (1) in the test set?

Precision of 1 = T**(1) / T(1)** +**F(0)**

= 59 / (59+1)

= 98 %

1. Recall :

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|  |  |  |
| --- | --- | --- |
|  | 0 (p) | 1 (n) |
| 0 (p) | 50 | 1 |
| 1 (n) | 23 | 59 |

What is the % of correct classification of (0) to the total input 0 in the test set?

Recall of 0 = TP ÷ (TP + FN) 🡪 T(0) ÷ (T(0) + F(1)

= 50 / (50+1)

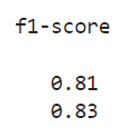
= 98 %

Recall of 1 = T(1) ÷ (T(1) + F(0)

= 59 / (59+23) = 0.719

= 72%

1. F1\_Score



F1-Measure of 0 = (2 \* Recall \* Precision) / (Recall + Precision)

= 2 \* 0.68 \* 0.98 / (0.68 \* 0.98) = 1.3328 / 1.66

= 0.8028 % = 81 %

F1-Measure of 1 = (2 \* Recall \* Precision) / (Recall + Precision)

= 2 \* 0.98 \* 0.72 / (0.98 \* 0.72) = 1.4112 / 1.7

= 0.83 % = 83 %

1. Accuracy :

accuracy = (TP + TN) / (TP + TN + FP + FN)



|  |  |  |
| --- | --- | --- |
|  | 0 (p) | 1 (n) |
| 0 (p) | 50 | 1 |
| 1 (n) | 23 | 59 |

Accuracy of 0 = (50 +59) / (50 + 59 + 1 + 23)

= 109 / 133

= 0. 8195 %

= 0.82 %

1. Macro Average :



Precision = Precision (0) + Precision (1)

2

= (0.68+0.98) / 2

= 1.66 / 2

= 0.83 %

Recall = Recall (0) + Recall (1)

2

= (0.98 +0.72) / 2

= 1.7 / 2

= 0.85 %

F1 Measure = F1(0) + F1(1)

2

= (0.81 + 0.83) / 2 = 1.62 / 2 🡪 0.82 %

1. Weighted Average:



Precision formula:

Precision(0)\*Total(0)in test set/Total input of the test set + Precision(1)\* Total(1)in test set/Total input of the test set

|  |  |  |
| --- | --- | --- |
|  | 0 | 1 |
| 0 | 50 | 1 |
| 1 | 23 | 59 |

= 0.68 \* (51 / 133) + 0.98 \* (82 / 133)

= 0.865% = 0.87%

Recall Formula:

Recall(0)\*Total(0)in test set/Total input of the test set+Recall(1)\* Total(1)in test set/Total input of the test set

= 0.98 \* (51 / 133) + 0.72 \* (82 / 133)

= 0.8197 % = 0.82%

F1 Formula:

F1(0)\*Total(0)in test set/Total input of the test set+F1(1)\* Total(1)in test set/Total input of the test set

= 0.81 \* (51 / 133) + 0.83 \* (82 / 133)

= 0.82%