**RANDOM FOREST CLASSIFIER**

**FLUX ONLY :**

**Target Variable: Cancer Stage**

MCC: -0.017412151430512175

Validation score: 0.1872548214098057

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[0 1 0 0 0 0 0 0 0]

[0 2 4 0 3 0 3 0 0]

[0 5 7 3 2 0 6 0 0]

[0 1 1 1 5 0 3 0 0]

[0 3 4 3 3 0 2 1 0]

[0 1 0 0 0 0 0 0 0]

[0 1 4 2 2 0 1 1 0]

[0 1 1 0 0 0 0 0 1]

[0 1 1 0 0 0 0 0 0]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.17 |
| RECALL | 0.17 |
| F1-SCORE | 0.17 |
| SUPPORT | 80 |

**Target Variable: Primary Tumour Site**

MCC: 0.008667265862084581

Validation scores: 0.23465461994620207

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 0 0 1 0 1 0 0]

[ 0 1 5 0 2 1 5]

[ 0 0 12 0 6 1 5]

[ 0 0 1 1 0 0 2]

[ 1 5 3 1 1 0 2]

[ 0 0 1 0 0 0 0]

[ 1 1 10 2 3 1 4]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.22 |
| RECALL | 0.24 |
| F1-SCORE | 0.22 |
| SUPPORT | 80 |

**GENES ONLY:**

**Target Variable: Cancer Stage**

MCC: -0.03668303979892941

Validation score: 0.2532664157743678

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[0 1 0 0 0 0 0 0 0]

[0 2 7 1 1 0 0 1 0]

[0 4 7 3 7 0 2 0 0]

[0 4 2 1 2 0 1 1 0]

[0 3 9 1 2 0 1 0 0]

[0 0 1 0 0 0 0 0 0]

[0 3 2 2 2 0 2 0 0]

[0 0 1 0 1 0 1 0 0]

[0 1 0 0 0 0 1 0 0]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.16 |
| RECALL | 0.17 |
| F1-SCORE | 0.17 |
| SUPPORT | 80 |

**Target Variable: Primary Tumour Site**

MCC: 0.026697012953529515

**Validation Score:** 0.2223316492218622

Confusion Matrix, without normalization

[[ 0 0 1 0 0 0 1]

[ 0 3 4 0 2 1 4]

[ 1 0 7 0 4 0 12]

[ 0 0 0 0 2 0 2]

[ 0 4 4 0 1 1 3]

[ 0 0 0 0 1 0 0]

[ 0 0 7 0 5 0 10]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.26 |
| RECALL | 0.26 |
| F1-SCORE | 0.25 |
| SUPPORT | 80 |

**CLINICAL DATA:**

**Target Variable: Cancer Stage**

MCC: 0.8482927732876057

**Validation score:** 0.9054325624728605

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 0 0 1 0 0 0 0 0 0 0]

[ 0 12 0 0 0 0 0 0 0 0]

[ 0 1 20 2 0 0 0 0 0 0]

[ 0 0 0 0 0 0 0 0 0 0]

[ 0 0 0 0 11 0 0 0 0 0]

[ 0 0 0 0 1 15 0 0 0 0]

[ 0 0 0 0 0 0 0 1 0 0]

[ 0 0 0 0 0 0 0 11 0 0]

[ 0 0 0 0 0 0 0 2 1 0]

[ 0 0 1 0 0 0 0 0 1 0]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.85 |
| RECALL | 0.88 |
| F1-SCORE | 0.86 |
| SUPPORT | 80 |

**Target Variable: Primary Tumour Site**

MCC: 0.3747522984542975

**Validation Score:** 0.45680004734391144

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 1 0 0 0 0 1 0]

[ 0 5 0 0 8 0 1]

[ 0 0 14 1 0 0 9]

[ 1 0 0 1 2 0 0]

[ 0 3 1 0 8 1 0]

[ 0 0 0 0 1 0 0]

[ 0 0 9 0 0 1 12]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.54 |
| RECALL | 0.51 |
| F1-SCORE | 0.51 |
| SUPPORT | 80 |

**ALL DATA SETS:**

**Target Variable: Cancer Stage**

MCC: 0.7532021299853101

**Validation score:** 0.7897425020670621

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 0 0 1 0 0 0 0 0 0]

[ 0 11 1 0 0 0 0 0 0]

[ 0 1 22 0 0 0 0 0 0]

[ 0 0 0 9 1 0 1 0 0]

[ 0 0 0 1 15 0 0 0 0]

[ 0 0 0 0 0 0 1 0 0]

[ 0 0 1 1 0 0 6 3 0]

[ 0 0 0 1 0 0 1 1 0]

[ 0 0 1 1 0 0 0 0 0]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.76 |
| RECALL | 0.80 |
| F1-SCORE | 0.78 |
| SUPPORT | 80 |

**Target Variable: Primary Tumour Site**

MCC: 0.2860963304202535

**Validation Score:** 0.4814457473166905

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 0 0 1 0 0 0 1]

[ 0 10 1 0 3 0 0]

[ 0 0 10 1 0 0 13]

[ 1 0 0 2 1 0 0]

[ 0 4 1 1 7 0 0]

[ 0 0 0 0 1 0 0]

[ 0 1 13 0 0 1 7]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.44 |
| RECALL | 0.45 |
| F1-SCORE | 0.45 |
| SUPPORT | 80 |