**RANDOM FOREST CLASSIFIER**

**FLUX ONLY :**

**Target Variable: Cancer Stage**

MCC: 0.1356695080588734

Validation score: 0.18398831613252867

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 0 1 0 0 0 0 0 0]

[ 0 12 5 2 1 1 0 0]

[ 1 4 9 1 3 2 0 1]

[ 0 2 3 0 1 1 0 0]

[ 1 5 3 1 3 1 1 0]

[ 0 2 5 1 1 1 0 0]

[ 0 0 0 0 0 0 0 0]

[ 0 2 1 0 1 3 0 1]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.31 |
| RECALL | 0.31 |
| F1-SCORE | 0.30 |
| SUPPORT | 83 |

**Target Variable: Primary Tumour Site**

MCC: 0.11757953165386319

Validation scores: 0.24843349289862574

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 1 3 0 1 0 3]

[ 2 8 0 2 1 5]

[ 0 0 0 1 0 0]

[ 7 6 0 3 0 4]

[ 0 1 0 1 2 1]

[ 8 6 0 4 0 13]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.36 |
| RECALL | 0.33 |
| F1-SCORE | 0.34 |
| SUPPORT | 83 |

**GENES ONLY:**

**Target Variable: Cancer Stage**

MCC: 0.10264714374468792

Validation score: 0.29170355472063253

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 0 1 0 0 0 0 0]

[ 0 13 4 1 0 3 0]

[ 0 6 8 0 4 3 0]

[ 0 4 3 0 0 0 0]

[ 0 1 10 1 1 2 0]

[ 0 2 3 0 2 3 0]

[ 0 2 5 0 1 0 0]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.23 |
| RECALL | 0.30 |
| F1-SCORE | 0.26 |
| SUPPORT | 83 |

**Target Variable: Primary Tumour Site**

MCC: 0.10750923180013923

**Validation Score:** 0.38642414419335674

Confusion Matrix, without normalization

[[ 1 2 0 2 0 3]

[ 0 6 0 1 0 11]

[ 0 1 0 0 0 0]

[ 4 4 0 2 0 10]

[ 0 0 0 2 0 3]

[ 2 3 0 4 0 22]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.31 |
| RECALL | 0.37 |
| F1-SCORE | 0.33 |
| SUPPORT | 83 |

**CLINICAL DATA:**

**Target Variable: Cancer Stage**

MCC: 0.7783778436560667

**Validation score:** 0.8025595677777841

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 0 1 0 0 0 0 0]

[ 0 20 1 0 0 0 0]

[ 0 0 21 0 0 0 0]

[ 0 0 2 4 1 0 0]

[ 0 1 1 2 11 0 0]

[ 0 0 0 1 0 9 0]

[ 0 1 2 1 0 1 3]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.83 |
| RECALL | 0.82 |
| F1-SCORE | 0.80 |
| SUPPORT | 83 |

**Target Variable: Primary Tumour Site**

MCC: 0.454385838944599

**Validation Score:** 0.5176248490598585

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 5 0 0 3 0 0]

[ 0 7 0 0 0 11]

[ 0 0 0 0 0 1]

[ 8 0 1 11 0 0]

[ 0 0 0 0 5 0]

[ 0 9 0 1 0 21]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.61 |
| RECALL | 0.59 |
| F1-SCORE | 0.59 |
| SUPPORT | 83 |

**ALL DATA SETS:**

**Target Variable: Cancer Stage**

MCC: 0.18174621184644027

**Validation score:** 0.3222952305969383

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 0 1 0 0 0 0 0]

[ 0 14 4 1 0 2 0]

[ 0 5 11 0 3 2 0]

[ 0 4 3 0 0 0 0]

[ 0 0 11 1 1 2 0]

[ 0 3 2 0 1 4 0]

[ 0 2 5 0 1 0 0]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.28 |
| RECALL | 0.36 |
| F1-SCORE | 0.30 |
| SUPPORT | 83 |

**Target Variable: Primary Tumour Site**

MCC: 0.16340975602065372

**Validation Score:** 0.4104961138903264

CONFUSION MATRIX:

Confusion Matrix, without normalization

[[ 1 3 0 3 0 1]

[ 0 6 0 1 0 11]

[ 0 1 0 0 0 0]

[ 3 4 0 4 0 9]

[ 0 0 0 3 0 2]

[ 2 3 0 3 0 23]]

CLASSIFICATION REPORT:

|  |  |
| --- | --- |
| PRECISION | 0.35 |
| RECALL | 0.41 |
| F1-SCORE | 0.37 |
| SUPPORT | 83 |