

Model: top_MultinomialNB

HyperParams:

```
{  
  "alpha": [  
    0,  
    0.5,  
    1,  
    10  
  ]  
}
```

Classifications: Emotions

Confusion Matrix:

View Visual matrix at:

[./precision/confusion_matrix_figures/top_MultinomialNB_emotions_1.png](/precision/confusion_matrix_figures/top_MultinomialNB_emotions_1.png)

```
[[1083 21 8 15 51 11 3 17 3 7 8 2 1 14  
 0 73 0 40 69 0 657 20 0 7 0 0 2 22]  
[ 43 505 8 20 17 2 2 8 3 1 10 1 2 9  
 0 13 0 25 12 0 532 4 0 3 0 0 3 10]  
[ 8 14 208 89 20 6 3 12 1 7 28 15 1 3  
 2 5 0 3 3 0 608 5 0 4 0 1 8 8]  
[ 33 35 98 161 57 12 23 18 5 20 55 21 1 4  
 0 11 0 3 10 0 1054 12 0 16 0 1 21 17]  
[130 24 17 47 300 33 17 15 10 14 54 5 0 10  
 2 35 0 18 30 0 1396 29 0 23 0 0 13 4]  
[ 15 5 4 8 15 88 2 6 1 8 9 2 0 0  
 0 26 1 8 7 0 420 31 0 1 0 4 8 0]  
[ 15 12 7 19 16 4 125 57 1 4 22 3 0 1  
 1 9 0 3 11 0 627 4 0 13 0 1 1 9]  
[ 19 12 7 16 19 4 44 201 3 5 18 1 0 5  
 2 8 0 2 5 0 740 6 0 12 0 0 2 12]  
[ 10 6 2 6 15 4 3 3 43 1 3 1 0 2  
 0 3 0 4 15 0 285 29 0 1 0 1 0 2]  
[ 20 14 10 31 40 7 9 4 2 83 27 8 2 0  
 4 7 0 1 9 0 622 12 0 14 0 2 34 8]  
[ 24 23 18 64 67 9 31 5 0 17 211 19 3 2  
 3 11 0 7 4 0 972 11 0 13 0 1 16 6]  
[ 18 10 37 46 16 0 5 2 0 10 24 96 1 0  
 7 3 0 1 1 0 288 5 0 2 0 0 9 4]  
[ 7 5 4 24 5 3 7 6 0 6 9 6 10 1  
 1 4 0 1 3 0 191 2 0 3 0 2 1 2]  
[ 58 12 13 3 16 0 3 15 0 2 6 1 0 42  
 0 16 0 42 15 1 319 10 0 5 0 0 3 15]  
[ 10 6 0 8 11 6 1 2 0 2 5 3 0 0  
 49 0 0 0 0 1 199 3 0 5 0 0 4 2]  
[ 81 8 0 3 7 10 2 3 0 3 3 0 0 2  
 0 1054 0 26 8 0 169 17 0 2 0 7 4 0]  
[ 2 0 1 1 3 1 0 1 0 0 1 0 0 0  
 2 1 0 0 0 0 33 1 0 1 0 2 6 2]  
[ 77 76 5 6 24 9 0 3 1 1 7 0 0 9  
 1 30 0 173 42 0 329 7 0 5 0 1 5 3]  
[ 80 14 1 1 8 6 0 3 1 0 4 0 0 0  
 0 13 0 20 487 0 352 8 0 2 0 1 0 3]
```

```

[ 3 1 2 5 8 10 1 3 0 7 4 0 1 2
 5 1 0 0 0 1 119 6 0 1 0 0 6 1]
[ 358 178 148 258 375 143 128 177 31 98 327 57 10 43
 35 111 2 99 87 3 8017 108 3 112 3 8 73 75]
[ 46 10 0 10 23 20 6 6 14 2 12 1 0 2
 1 23 0 14 10 0 496 205 0 2 1 0 5 5]
[ 28 2 1 5 3 2 2 0 0 3 4 2 0 0
 1 4 0 7 0 0 85 4 3 1 0 0 0 0]
[ 25 17 5 21 51 9 11 5 1 8 25 0 0 3
 0 11 0 9 10 0 670 7 1 60 0 5 3 15]
[ 20 2 0 2 6 9 1 1 0 1 1 0 0 0
 0 12 0 8 2 0 84 1 0 3 1 0 1 1]
[ 2 4 2 3 5 10 1 1 1 11 4 2 0 0
 0 13 0 0 3 0 140 1 1 3 0 46 19 0]
[ 16 9 5 12 20 9 2 2 4 38 14 4 0 0
 2 16 0 6 3 0 459 6 0 6 0 21 138 3]
[ 44 11 16 8 16 3 7 26 0 5 10 2 0 9
 4 4 0 6 2 0 397 4 0 8 0 0 3 106]]

```

Classsification Report:

View formatted classification report at:

[./precision/classification_reports/top_MultinomialNB_2.txt](#)

| | precision | recall | f1-score | support |
|----------------|-----------|--------|----------|---------|
| admiration | 0.48 | 0.51 | 0.49 | 2134 |
| amusement | 0.49 | 0.41 | 0.45 | 1233 |
| anger | 0.33 | 0.20 | 0.25 | 1062 |
| annoyance | 0.18 | 0.10 | 0.12 | 1688 |
| approval | 0.25 | 0.13 | 0.17 | 2226 |
| caring | 0.20 | 0.13 | 0.16 | 669 |
| confusion | 0.28 | 0.13 | 0.18 | 965 |
| curiosity | 0.33 | 0.18 | 0.23 | 1143 |
| desire | 0.34 | 0.10 | 0.15 | 439 |
| disappointment | 0.23 | 0.09 | 0.12 | 970 |
| disapproval | 0.23 | 0.14 | 0.17 | 1537 |
| disgust | 0.38 | 0.16 | 0.23 | 585 |
| embarrassment | 0.31 | 0.03 | 0.06 | 303 |
| excitement | 0.26 | 0.07 | 0.11 | 597 |
| fear | 0.40 | 0.15 | 0.22 | 317 |
| gratitude | 0.69 | 0.75 | 0.72 | 1409 |
| grief | 0.00 | 0.00 | 0.00 | 58 |
| joy | 0.33 | 0.21 | 0.26 | 814 |
| love | 0.57 | 0.49 | 0.53 | 1004 |
| nervousness | 0.17 | 0.01 | 0.01 | 187 |
| neutral | 0.40 | 0.72 | 0.51 | 11067 |
| optimism | 0.37 | 0.22 | 0.28 | 914 |
| pride | 0.38 | 0.02 | 0.04 | 157 |
| realization | 0.18 | 0.06 | 0.09 | 972 |
| relief | 0.20 | 0.01 | 0.01 | 156 |
| remorse | 0.44 | 0.17 | 0.24 | 272 |
| sadness | 0.36 | 0.17 | 0.23 | 795 |
| surprise | 0.32 | 0.15 | 0.21 | 691 |
| accuracy | | 0.39 | | 34364 |

| | | | | |
|--------------|------|------|------|-------|
| macro avg | 0.33 | 0.20 | 0.22 | 34364 |
| weighted avg | 0.36 | 0.39 | 0.35 | 34364 |

Classifications: Emotions

Confusion Matrix:

View Visual matrix at:

[./precision/confusion_matrix_figures/top_MultinomialNB_sentiments_1.png](#)

```
[[ 878 588 1419 886]
 [ 300 4175 2063 1236]
 [ 680 1916 5410 3061]
 [ 293 958 2210 8291]]
```

Classsification Report:

View formatted classification report at:

[./precision/classification_reports/top_MultinomialNB_3.txt](#)

| | precision | recall | f1-score | support |
|--------------|-----------|--------|----------|---------|
| ambiguous | 0.41 | 0.23 | 0.30 | 3771 |
| negative | 0.55 | 0.54 | 0.54 | 7774 |
| neutral | 0.49 | 0.49 | 0.49 | 11067 |
| positive | 0.62 | 0.71 | 0.66 | 11752 |
| accuracy | | | 0.55 | 34364 |
| macro avg | 0.51 | 0.49 | 0.50 | 34364 |
| weighted avg | 0.54 | 0.55 | 0.54 | 34364 |