

Model: top_MLP_2.5

HyperParams:

```
{
  "activation": [
    "logistic",
    "tanh",
    "relu",
    "identity"
  ],
  "hidden_layer_sizes": [
    [
      10,
      30
    ],
    [
      8,
      8,
      8
    ]
  ],
  "solver": [
    "adam",
    "sgd"
  ],
  "max_iter": [
    2
  ]
}
```

Classifications: Emotions

Confusion Matrix:

View Visual matrix at:

[./precision/confusion_matrix_figures/top_MLP_2.5_emotions_1.png](#)

```
[[ 2544  62  8 10  9  8  5 15  2  0 18  2
   0  0  0 100  0 80 197  0 2090 55  0  2
   0  2  9  3]
 [ 117 1717 10  9  0  0  2 15  0  2  6  1
   0  1  0 18  0 49 25  0 1136 13  0  1
   0  1  7  0]
 [ 17 22 360 108  1  6 12 25  0  4 36 19
   0  0  3 12  0  9 10  0 1938 13  0  1
   0  9 19  1]
 [ 56 102 175 147  5  9 22 35  2  3 92 31
   0  0  2 26  0 14 32  0 3340 25  0  5
   0 14 31  1]
 [ 290 76 24 50 39 19 11 21  2  4 39 13
   0  0  6 47  0 49 72  0 4699 69  0  1
   0  5 25  1]
 [ 56 19 21 29  1 63  3  6  1  0 17  6
   0  0  0 19  0 25 28  0 1307 95  0  0
   0 30 22  0]
 [ 39 44 23 11  2  3 151 68  0  0 55  5
   0  0  3 12  0 11 13  0 1996  6  0  3]
```

| | | | | | | | | | | | | | | |
|---|-----|-----|-----|------|----|-----|------|-----|-------|-----|-----|-----|---|--|
| | 0 | 5 | 5 | 1] | | | | | | | | | | |
| [| 61 | 51 | 18 | 11 | 0 | 2 | 3 | 33 | 284 | 0 | 1 | 16 | 6 | |
| | 0 | 1 | 2 | 8 | 0 | 12 | 24 | 0 | 2345 | 9 | 0 | 2 | | |
| | 0 | 10 | 8 | 3] | | | | | | | | | | |
| [| 20 | 22 | 4 | 18 | 1 | 28 | 1 | 3 | 38 | 2 | 2 | 2 | | |
| | 0 | 0 | 0 | 10 | 0 | 17 | 35 | 0 | 705 | 163 | 0 | 0 | | |
| | 0 | 2 | 7 | 0] | | | | | | | | | | |
| [| 50 | 30 | 55 | 32 | 4 | 10 | 9 | 7 | 5 | 16 | 37 | 24 | | |
| | 0 | 0 | 0 | 14 | 0 | 9 | 18 | 0 | 1979 | 21 | 0 | 2 | | |
| | 0 | 29 | 96 | 0] | | | | | | | | | | |
| [| 53 | 62 | 62 | 69 | 5 | 1 | 27 | 18 | 1 | 1 | 162 | 18 | | |
| | 0 | 0 | 0 | 21 | 0 | 11 | 15 | 0 | 3270 | 26 | 0 | 2 | | |
| | 0 | 20 | 35 | 1] | | | | | | | | | | |
| [| 12 | 17 | 81 | 47 | 0 | 2 | 7 | 5 | 0 | 2 | 30 | 186 | | |
| | 0 | 0 | 2 | 3 | 0 | 2 | 6 | 0 | 993 | 8 | 0 | 2 | | |
| | 0 | 3 | 29 | 0] | | | | | | | | | | |
| [| 7 | 18 | 42 | 19 | 0 | 0 | 5 | 6 | 0 | 1 | 11 | 5 | | |
| | 0 | 0 | 1 | 5 | 0 | 0 | 8 | 0 | 569 | 8 | 0 | 0 | | |
| | 0 | 20 | 24 | 0] | | | | | | | | | | |
| [| 202 | 30 | 7 | 2 | 3 | 0 | 3 | 7 | 1 | 1 | 10 | 1 | | |
| | 0 | 16 | 1 | 45 | 0 | 116 | 44 | 0 | 1037 | 13 | 0 | 1 | | |
| | 0 | 0 | 9 | 4] | | | | | | | | | | |
| [| 4 | 14 | 14 | 10 | 0 | 5 | 2 | 14 | 1 | 1 | 6 | 6 | | |
| | 0 | 0 | 62 | 0 | 0 | 0 | 11 | 0 | 678 | 8 | 0 | 1 | | |
| | 0 | 0 | 47 | 1] | | | | | | | | | | |
| [| 232 | 21 | 5 | 1 | 2 | 6 | 2 | 6 | 0 | 0 | 3 | 0 | | |
| | 0 | 0 | 0 | 2749 | 0 | 86 | 18 | 0 | 340 | 59 | 0 | 0 | | |
| | 0 | 50 | 7 | 2] | | | | | | | | | | |
| [| 3 | 4 | 5 | 3 | 0 | 1 | 0 | 2 | 1 | 0 | 2 | 1 | | |
| | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 0 | 123 | 0 | 0 | 0 | | |
| | 0 | 10 | 13 | 0] | | | | | | | | | | |
| [| 183 | 236 | 5 | 3 | 2 | 5 | 1 | 1 | 4 | 2 | 1 | 0 | | |
| | 0 | 0 | 1 | 76 | 0 | 472 | 125 | 0 | 950 | 25 | 0 | 0 | | |
| | 0 | 5 | 16 | 1] | | | | | | | | | | |
| [| 171 | 27 | 3 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 5 | 2 | | |
| | 0 | 0 | 1 | 16 | 0 | 19 | 1500 | 0 | 769 | 13 | 0 | 0 | | |
| | 0 | 2 | 5 | 0] | | | | | | | | | | |
| [| 4 | 0 | 18 | 6 | 0 | 6 | 2 | 6 | 1 | 1 | 4 | 2 | | |
| | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 336 | 7 | 0 | 1 | | |
| | 0 | 3 | 17 | 0] | | | | | | | | | | |
| [| 672 | 478 | 244 | 194 | 21 | 58 | 107 | 188 | 9 | 17 | 287 | 65 | | |
| | 0 | 2 | 14 | 154 | 0 | 167 | 287 | 0 | 24046 | 245 | 0 | 13 | | |
| | 0 | 72 | 123 | 7] | | | | | | | | | | |
| [| 126 | 33 | 6 | 29 | 6 | 25 | 6 | 3 | 9 | 0 | 18 | 2 | | |
| | 0 | 0 | 0 | 18 | 0 | 29 | 23 | 0 | 1212 | 685 | 0 | 1 | | |
| | 0 | 3 | 6 | 0] | | | | | | | | | | |
| [| 57 | 2 | 2 | 2 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | | |
| | 0 | 0 | 0 | 10 | 0 | 13 | 0 | 0 | 263 | 5 | 0 | 0 | | |
| | 0 | 0 | 6 | 0] | | | | | | | | | | |
| [| 71 | 38 | 25 | 22 | 2 | 1 | 10 | 11 | 1 | 3 | 40 | 6 | | |
| | 0 | 0 | 4 | 10 | 0 | 10 | 18 | 0 | 2021 | 20 | 0 | 13 | | |
| | 0 | 14 | 22 | 2] | | | | | | | | | | |
| [| 30 | 3 | 7 | 5 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | | |

```

0 0 0 32 0 30 3 0 272 6 0 1
0 1 6 0]
[ 1 10 40 4 3 7 2 4 1 0 4 1
0 0 0 9 0 4 2 0 252 6 0 1
0 307 43 0]
[ 21 30 36 25 3 10 1 6 4 9 11 29
0 0 3 12 0 11 17 0 1224 17 0 1
0 145 332 0]
[ 175 39 14 8 2 1 10 22 0 1 29 1
0 2 0 10 0 18 13 0 1325 11 0 8
0 3 6 41]]

```

Classssification Report:

View formatted classification report at:

[./precision/classification_reports/top_MLP_2.5_2.txt](#)

| | precision | recall | f1-score | support |
|----------------|-----------|--------|----------|---------|
| admiration | 0.48 | 0.49 | 0.48 | 5221 |
| amusement | 0.54 | 0.55 | 0.54 | 3130 |
| anger | 0.27 | 0.14 | 0.18 | 2625 |
| annoyance | 0.17 | 0.04 | 0.06 | 4169 |
| approval | 0.34 | 0.01 | 0.01 | 5562 |
| caring | 0.22 | 0.04 | 0.06 | 1748 |
| confusion | 0.35 | 0.06 | 0.10 | 2456 |
| curiosity | 0.36 | 0.10 | 0.15 | 2910 |
| desire | 0.46 | 0.04 | 0.07 | 1080 |
| disappointment | 0.22 | 0.01 | 0.01 | 2447 |
| disapproval | 0.17 | 0.04 | 0.07 | 3880 |
| disgust | 0.43 | 0.13 | 0.20 | 1437 |
| embarrassment | 0.00 | 0.00 | 0.00 | 749 |
| excitement | 0.73 | 0.01 | 0.02 | 1553 |
| fear | 0.58 | 0.07 | 0.12 | 885 |
| gratitude | 0.80 | 0.77 | 0.78 | 3589 |
| grief | 0.00 | 0.00 | 0.00 | 174 |
| joy | 0.37 | 0.22 | 0.28 | 2114 |
| love | 0.59 | 0.59 | 0.59 | 2537 |
| nervousness | 0.00 | 0.00 | 0.00 | 418 |
| neutral | 0.39 | 0.88 | 0.54 | 27470 |
| optimism | 0.42 | 0.31 | 0.35 | 2240 |
| pride | 0.00 | 0.00 | 0.00 | 364 |
| realization | 0.21 | 0.01 | 0.01 | 2364 |
| relief | 0.00 | 0.00 | 0.00 | 401 |
| remorse | 0.40 | 0.44 | 0.42 | 701 |
| sadness | 0.34 | 0.17 | 0.23 | 1947 |
| surprise | 0.59 | 0.02 | 0.05 | 1739 |
| accuracy | | 0.42 | | 85910 |
| macro avg | 0.34 | 0.18 | 0.19 | 85910 |
| weighted avg | 0.39 | 0.42 | 0.33 | 85910 |

Classifications: Emotions

Confusion Matrix:

View Visual matrix at:

[./precision/confusion_matrix_figures/top_MLP_2.5_sentiments_1.png](#)

```
[[ 2021 1436 4469 1543]
 [ 595 10103 6200 2534]
 [ 1279 4721 15905 5565]
 [ 539 2264 6909 19827]]
```

Classsification Report:

View formatted classification report at:

[./precision/classification_reports/top_MLP_2.5_3.txt](#)

| | precision | recall | f1-score | support |
|--------------|-----------|--------|----------|---------|
| ambiguous | 0.46 | 0.21 | 0.29 | 9469 |
| negative | 0.55 | 0.52 | 0.53 | 19432 |
| neutral | 0.48 | 0.58 | 0.52 | 27470 |
| positive | 0.67 | 0.67 | 0.67 | 29539 |
| accuracy | | 0.56 | | 85910 |
| macro avg | 0.54 | 0.50 | 0.50 | 85910 |
| weighted avg | 0.56 | 0.56 | 0.55 | 85910 |