|  |  |
| --- | --- |
|  | F1-score |
| Word2Vec with MLP | 0.778 |
| Word2Vec with LSTM | 0.794 |
| Word2Vec with SVM | 0.684 |
|  |  |
| FastText with MLP | 0.746 |
| FastText with LSTM | 0.794 |
| FastText with SVM | 0.694 |
|  |  |
| Glove with MLP | 0.768 |
| Glove with LSTM | 0.782 |
| Glove with SVM | 0.81 |
|  |  |
| TF-IDF with MLP | 0.758 |
|  |  |
| LSA (TF-IDF + SVD) + Logistic Regression | 0.644 |
|  |  |

|  |  |
| --- | --- |
|  | Mean of Cross validation score |
| Word2Vec with XGBoost | 0.6876 |
| FastText with XGBoost | 0.6864 |
| Glove with XGBoost | 0.7989 |

|  |  |
| --- | --- |
|  | Coherence value |
| Word2Vec with LDA (LDA2Vec) | 0.3096 |

|  |  |
| --- | --- |
|  | Accuracy |
| BERTweet | 0.80656 |

HYPERPARAMETERS

|  |  |
| --- | --- |
| **MODEL** | **HYPERPARAMETERS** |
|  |  |
| Word2Vec | Sg = 0 (=> CBOW)  Window size = 5  Size (Dimensions) = 100  Min\_count = 1  Workers = 4 |
| -with MLP | Number of layers = 4  -Embedding layer:  number of neurons = 100  -Flatten  -Dense layer  1. number of neurons = 500  2. activation function: relu  -Dense layer  1. number of neurons = 2  2. activation function: softmax  Loss function: Binary Cross entropy  Optimizer: Adam  Metric: accuracy |
| -with LSTM | Number of layers = 3  -Embedding layer:  number of neurons = 100  -LSTM  number of neurons = 128  -Dense layer  1. number of neurons = 2  2. activation function: softmax  Loss function: Binary Cross entropy  Optimizer: Adam  Metric: accuracy |
| -with SVM | Gamma = auto |
|  |  |
| FastText | Window size = 3  Size (Dimensions) = 100  Min\_count = 1  Workers = 4 |
| -with MLP | Number of layers = 4  -Embedding layer:  number of neurons = 100  -Flatten  -Dense layer  1. number of neurons = 500  2. activation function: relu  -Dense layer  1. number of neurons = 2  2. activation function: softmax  Loss function: Binary Cross entropy  Optimizer: Adam  Metric: accuracy |
| -with LSTM | Number of layers = 3  -Embedding layer:  number of neurons = 100  -LSTM  number of neurons = 128  -Dense layer  1. number of neurons = 2  2. activation function: softmax  Loss function: Binary Cross entropy  Optimizer: Adam  Metric: accuracy |
| -with SVM | Gamma = auto |
|  |  |
| GloVe |  |
| -with MLP | Number of layers = 4  -Embedding layer:  number of neurons = 100  -Flatten  -Dense layer  1. number of neurons = 500  2. activation function: relu  -Dense layer  1. number of neurons = 2  2. activation function: softmax  Loss function: Binary Cross entropy  Optimizer: Adam  Metric: accuracy |
| -with LSTM | Number of layers = 3  -Embedding layer:  number of neurons = 100  -LSTM  number of neurons = 128  -Dense layer  1. number of neurons = 2  2. activation function: softmax  Loss function: Binary Cross entropy  Optimizer: Adam  Metric: accuracy |
| -with XGBoost | Gamma = auto |
|  |  |
| TF-IDF |  |
| -with MLP | Number of layers = 2  -Dense layer  1. number of neurons = 500  2. activation function: relu  -Dense layer  1. number of neurons = 2  2. activation function: softmax  Loss function: Binary Cross entropy  Optimizer: Adam  Metric: accuracy |
|  |  |
| BERTweet | Number of layers = 2  -Dense layer  1. number of neurons = 512  2. activation function: relu  -Dense layer  1. number of neurons = 2  2. activation function: softmax  Loss function: Binary Cross entropy  Optimizer: Adam  Metric: accuracy |