

# Report

## TF-IDF

### Logistic Regression

- Best Model: Model1
- Hyper parameters: solver='liblinear', dual=True, C=1, max\_iter=1000
- Train Accuracy : 0.97625
- Test Accuracy : 0.795

### Linear SVM

- Best Model: Model1
- Hyper parameters: tol = 1e-5, C = 1, max\_iter=10000 max\_iter=1000
- Train Accuracy : 1.0
- Test Accuracy : 0.8025

# doc2vec

## Logistic Regression

- Best Model: Model 1
- Hyper parameters: solver='liblinear', dual=True, C=1, max\_iter=1000
- Train Accuracy : 0.87
- Test Accuracy : 0.795

## Linear SVM

- Best Model: Model 2
- Hyper parameters: tol = 1e-5, C = 1, max\_iter=10000
- Train Accuracy : 0.87125
- Test Accuracy : 0.79

# word2vec Skipgram

## Logistic Regression

- Best Model: Model 4
- Hyper parameters: solver='liblinear', dual = True, C = 0.2, max\_iter = 1000
- Train Accuracy : 0.844375
- Test Accuracy : 0.7725

## Linear SVM

- Best Model: Model 1
- Hyper parameters: tol = 1e-5, C = 1, max\_iter=10000
- Train Accuracy : 0.840625
- Test Accuracy : 0.7625

# Word2vec CBOW

## Logistic Regression

- Best Model: Model 3
- Hyper parameters : solver='liblinear', dual = True, C = 0.5
- Train Accuracy : 0.835625
- Test Accuracy : 0.7775

## Linear SVM

- Best Model : Model 6
- Hyper parameters = tol = 1e-3, C = 1, max\_iter=10000
- Train Accuracy : 0.834375
- Test Accuracy : 0.7775