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assignmnet(3)-classifiers

**Classifiers used**

1. Stochastic Gradient Descent Classifier
2. Gaussian Naïve Bayes Classifier
3. Decision Tree Classifier
4. K-Nearest Neighbor Classifier

**Parameters**

1. Maximum Frequency – 700
2. Minimum Frequency – 4
3. N-gram Range – (1,3)
4. Maximum Features – 75
5. Training Size – 70%

**Linear Classifier:**

1. **Accuracy**

**Linear Classifier**: 0.793939393939394

1. **confusion\_matrix**

array([[ 6, 0, 22],

[ 1, 0, 23],

[ 1, 0, 247]], dtype=int64)

1. **Percison,recall,fscore**

**Macro**: Percison,recall,fscore (0.4451923663191269, 0.43731168269913656,

0.43847028847028846, None)

**Naive Bayes Classifier:**

1. **Accuracy**

**Naive Bayes Classifier**: 0.5151515151515151

1. **confusion\_matrix**

array([[ 12, 8, 8],

[ 3, 12, 9],

[ 36, 67, 145]], dtype=int64)

1. **Percison,recall,fscore**

**Macro**: Percison,recall,fscore (0.41199688719515687, 0.4854695352850335,

0.37775020576780743, None)

**Decision Tree Classifier:**

1. **Accuracy**

**Decision Tree Classifier**: 0.7515151515151515

1. **confusion\_matrix**

array([[ 12, 8, 8],

[ 3, 12, 9],

[ 36, 67, 145]], dtype=int64)

1. **Percison,recall,fscore**

**Macro**: Percison,recall,fscore (0.41951775822743564, 0.4090395326557688,

0.4134632034632035, None)

**KNN Classifier:**

1. **Accuracy**

**KNN Classifier**: 0.8090909090909091

1. **confusion\_matrix**

array([[ 5, 0, 23],

[ 3, 1, 20],

[ 7, 4, 237]], dtype=int64)

1. **Percison,recall,fscore**

**Macro**: Percison,recall,fscore (0.5522222222222223, 0.430773275791726,

0.4486568235869574, None)