

Evaluation during the learning phase

Parameter tuning: Dataset 2: Only requirements

| Models | | | | | | |
|---------------|--------------|------------------|-----------------|--------------|-----------|---------|
| tfidf | max features | max df | min df | smooth idf | norm | use idf |
| | 500 | 0.9 | 1 | TRUE | L2 | TRUE |
| svm | c | gamma | kernel | | | |
| | 1 | 0.1 | linear | | | |
| decision tree | max depth | min sample split | min sample lead | max features | criterion | |
| | 20 | 10 | 1 | Sqrt | gini | |

Evaluation on multidisciplinary data

DAMIR + 44 rail requirements from ReqEval tuning.

| tfidf | max features | max_df | min_df | smooth_idf | norm | use_idf |
|---------------|--------------|-------------------|------------------|--------------|-----------|---------|
| | 1000 | 0.9 | 3 | true | none | true |
| decision tree | max_depth | min_samples_split | min_samples_leaf | max_features | criterion | |
| | none | 10 | 1 | sqrt | gini | |
| svm | c | gamma | kernel | | | |
| | 1 | 0.1 | rbf | | | |

SVC

{'SVC_Accuracy': '0.6133', 'SVC_Precision': '0.6299', 'SVC_Recall': '0.6133', 'SVC_F1-Score': '0.6040'}

Naive

Bayes

{'NB_Accuracy': '0.6043', 'NB_Precision': '0.6062', 'NB_Recall': '0.6043', 'NB_F1-Score': '0.6019'}

Decision Tree

{'DTree_Accuracy': '0.5788', 'DTree_Precision': '0.5793', 'DTree_Recall': '0.5788', 'DTree-F1-Score': '0.5770'}