|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Precision** | **Recall** | **F-score** | **SVM-Par** |
| #Pictures | 53.0 | 39.6 | 45.4 | c\_SVC RBF C=500 |
| #Formulas | 70.5 | 66.7 | 68.5 | c\_SVC RBF C=1000 |
| #Tables | 72.6 | 69.4 | 71.0 | c\_SVC RBF C=1000 |
| Metadata | 73.5 | 74.8 | 74.1 | NU\_SVC POLY NU=0.5 |
| Title | 64.3 | 56.8 | 60.2 | NU\_SVC LIN NU=0.5 |
| LDA Topic | 78.5 | 75.6 | 77.1 | NU\_SVC RBF NU=0.5 |
| Popular Techniques | 53.0 | 40.5 | 46.0 | NU\_SVC RBF NU=0.5 |
| Author Ranking | 40.3 | 71.2 | 52.5 | NU\_SVC RBF NU=0.5 |
| Metadata+LDA | 81.4 | 82.9 | 82.1 | NU\_SVC POLY NU=0.5 |
| All features | 85.0 | 76.6 | 80.6 | NU\_SVC POLY NU=0.5 |
| All Positive | 43.4 | 100.0 | 60.0 |  |

2012

2010

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Precision** | **Recall** | **F-score** | **SVM-Par** |
| Metadata+LDA | 70.4 | 66.9 | 68.6 | NU\_SVC POLY C=1000 |
| All features | 68.1 | 57.5 | 62.4 | NU\_SVC RBF C=500 |
| All Positive | 35.0 | 100.0 | 51.9 |  |

2007

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Precision** | **Recall** | **F-score** | **SVM-Par** |
| Metadata+LDA | 51.0 | 55.6 | 53.1 | NU\_SVC POLY NU=0.5 |
| All features | 54.4 | 50.5 | 52.3 | NU\_SVC RBF NU=0.5 |
| All Positive | 27.0 | 100.0 | 42.5 |  |

After filtered out short papers:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Precision** | **Recall** | **F-score** | **SVM-Par** |
| #Pictures | 63.3 | 68.5 | 65.8 | NU\_SVC RBF NU=0.8 |
| #Formulas | 74.5 | 68.5 | 71.4 | NU\_SVC RBF NU=0.8 |
| #Tables | 70.0 | 80.2 | 74.8 | NU\_SVC RBF NU=0.8 |
| Metadata | 74.8 | 82.9 | 78.6 | NU\_SVC POLY NU=0.8 |
| Title | 65.2 | 91.0 | 76.0 | NU\_SVC LIN NU=0.8 |
| LDA Topic | 69.9 | 91.9 | 79.4 | NU\_SVC RBF NU=0.8 |
| Popular Techniques | 67.0 | 47.7 | 55.8 | NU\_SVC RBF NU=0.8 |
| Author Ranking | 57.0 | 76.6 | 65.4 | NU\_SVC RBF NU=0.7 |
| Sentence Complexity | 71.4 | 90.1 | 79.7 | NU\_SVC POLY NU=0.7 |
| Metadata+LDA +Complexity | 79.8 | 92.8 | **85.8** | NU\_SVC POLY NU=0.6 |
| All features | 80.5 | 85.6 | 83.0 | NU\_SVC POLY NU=0.5 |
| All Positive | 58.4 | 100.0 | 73.7 |  |

2012

2010

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Precision** | **Recall** | **F-score** | **SVM-Par** |
| Metadata | 70.1 | 68.8 | 69.4 | NU\_SVC RBF NU=0.6 |
| LDA | 65.4 | 66.3 | 65.8 |  |
| Complexity | 65.3 | 60.0 | 62.5 |  |
| Metadata+LDA +Complexity | 69.3 | 72.9 | **70.6** | NU\_SVC RBF NU=0.6 |
| All features | 67.2 | 69.4 | 68.3 | NU\_SVC RBF NU=0.6 |
| All Positive | 52.7 | 100.0 | 68.9 |  |

2007

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Precision** | **Recall** | **F-score** | **SVM-Par** |
| Metadata | 35.2 | 31.3 | 33.2 | NU\_SVC RBF NU=0.5 |
| LDA | 59.2 | 58.6 | **58.9** | NU\_SVC RBF NU=0.5 |
| Complexity | 65.3 | 60.0 | 62.5 | NU\_SVC RBF NU=0.6 |
| Metadata+LDA +Complexity | 42.7 | 41.4 | 42.1 | NU\_SVC RBF NU=0.5 |
| All features | 60.5 | 49.5 | 54.4 | NU\_SVC RBF NU=0.5 |
| All Positive | 35.6 | 100.0 | 52.5 |  |