

Table 1. Data sets

Name	Abbreviation	Number of Features	Number of Objects	Number of Classes	Difficulty
Spekboom	Spekboom	46	57877	3	419.40
Synthetic	Synthetic	17	10000	2	294.12
Statlog Landsat	Landsat	36	3756	6	17.39
Urban L and C over	Urban	147	261	9	0.20
Botswana	Botswana	145	1330	14	0.66
Kennedy S pace C entre	KSC	176	1365	13	0.60

Table 2. Methods s as combinations of search schemes and criteria ~~combination~~

Method <u>Search scheme</u>	Criterion	<u>Method</u> Abbreviation
Forward selection	Joint m Mutual I information	FS-JMI
<u>Forward selection</u>	<u>Maximum relevance</u> <u>minimum redundancy</u>	<u>FS-MRMR</u>
Feature C lustering and R anking	Naive Bayes	FCR-NaiveBC
Ranking	Naive Bayes	Rank-NaiveBC
Forward selection	Naive Bayes	FS-NaiveBC
Backward elimination	Naive Bayes	BE-NaiveBC
Feature C lustering and I Ranking	Mutual information	FCR-MI
Ranking	Mutual information	Rank-MI
Forward selection	Mutual information	FS-MI
Backward elimination	Mutual information	BE-MI

Table 3. Feature selection parameters

Data Set	Number of Features to Select	FCR Dissimilarity Threshold
Spekboom	6	0.2
Synthetic	5	0.15
Statlog Landsat	4	0.2
Urban Land c Cover	4	0.3
Botswana	6 7	0.03
Kennedy s Space c Centre	7	0.05

Table 4. Method cumulative execution time over all data

Method	Time (s)
Rank-MI	5.77
JMI	6.25
FCR-MI	6.46
FS-MI	24.71
FCR-NaiveBC	122.23
Rank-NaiveBC	145.55
BE-MI	815.23
FS-NaiveBC	831.99
BE-NaiveBC	5726.67

Method	Time (s)
<u>FS-MRMR</u>	<u>1.40</u>
<u>Rank-MI</u>	<u>2.11</u>
<u>FS-JMI</u>	<u>2.46</u>
<u>FCR-MI</u>	<u>3.01</u>
<u>FS-MI</u>	<u>12.08</u>
<u>FCR-NaiveBC</u>	<u>72.61</u>
<u>Rank-NaiveBC</u>	<u>73.05</u>
<u>BE-MI</u>	<u>242.39</u>
<u>FS-NaiveBC</u>	<u>429.76</u>
<u>BE-NaiveBC</u>	<u>3340.84</u>

Table 5. Non-dominated ranking of methods by accuracy and stability

Method	Rank
FCR-MI	1.50
FCR-NaiveBC	1.83
FS-NaiveBC	1.83
FS-MI	1.83
BE-NaiveBC	2.83
JMI	3.00
Rank-NaiveBC	3.33
Rank-MI	3.50
BE-MI	3.50

Method	Rank
<u>FCR-MI</u>	<u>1</u>
<u>FCR-NaiveBC</u>	<u>1.67</u>
<u>FS-MRMR</u>	<u>2</u>
<u>FS-JMI</u>	<u>2.50</u>
<u>FS-MI</u>	<u>2.83</u>
<u>FS-NaiveBC</u>	<u>2.83</u>
<u>Rank-MI</u>	<u>3</u>
<u>BE-NaiveBC</u>	<u>3.33</u>
<u>Rank-NaiveBC</u>	<u>3.33</u>
<u>BE-MI</u>	<u>4</u>