mkaTimeSeriesPaper Mathieu Lagrange October 16, 2014

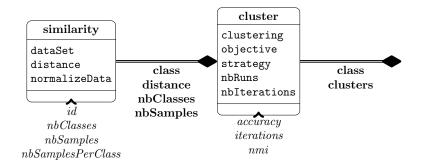


Figure 1: Factors flow graph for the experiment.

id nbClasses nbSamplesPerClass			
7	2	28±1	
12	2	100±47	
13	2	442±0	
17	2	100±0	
20	2	548±1	
21	2	60±18	
25	2	636±69	
28	2	310±54	
29	2	490±161	
34	2	581±0	
42	2	3582 ± 3988	
43	2	1650±170	

Table 1: Morphology of the datasets

References

id nb(Classes 1	nbSamplesPerClass	kAverages	kkMeans	kMeans
7	2	28±1	54±26	48±32	48±12
12	2	100±47	15 \pm 0 *	14±3	12±2
13	2	442±0	4±6	2±2	$o\pm o$
17	2	100±0	\mathbf{o}^*	\mathbf{o}^*	\mathbf{o}^*
20	2	548±1	$o\pm o$	1±0*	$o\pm o$
21	2	60±18	1±0	1±0	$3\pm o^*$
25	2	636±69	41±0	52±0*	30±0
28	2	310±54	72±1	$78\pm o^*$	55±21
29	2	490±161	22	21	24 *
34	2	581±0	$7\pm o^*$	7 ± 0	$o\pm o$
42	2	3582 ± 3988	О	О	\mathbf{o}^*
43	2	1650±170	$o\pm o$	$\mathbf{o} \pm \mathbf{o}$	$o\pm o$

Table 2: nbIterations: 200, distance: dtw, normalizeData: 1, objective: object, strategy: p, nbRuns: 20

5	12±0
3	310±0
3	1436±755
4	355±0
4	80±31
4	28 ± 5
5	93±9
7	93±22
7	20±8
6	74±20
4	15±8
3	3079±2045
6	170±9
4	50±0
	3 3 4 4 4 5 7 6 4 3 6

35

37 38 6 1250±43

50±0

100±0

 $id\ nb Classes\ nb Samples Per Class$

Table 3: Morphology of the datasets

id	nbClasses	nbSamplesPerClass	s kAverages	kkMeans	kMeans
3	5	12±0	32±2	29±3	30±4
4	3	310±0	51±3	51±4	36±1
5	3	1436±755	$o\pm o$	$\mathbf{o} \pm \mathbf{o}$	$o\pm o$
6	4	355±0	41±5	44±8	23±3
11	4	80±31	65±10	81±10	83 ± 3
15	4	28 ± 5	72 ±10	67±9	45±4
18	5	93±9	10±1	9±1	9±0
19	7	93±22	5±0	5±1	5±1
22	7	20±8	50±2	51±4	44±2
26	6	74±20	$25\pm2^*$	23±3	22±3
27	4	15±8	61±7	59±9	$66\pm4^*$
30	3	3079±2045	6o±o	61±4	6o±o
32	6	170±9	80±1	79±4	76 ± 6
33	4	50±0	53±3	58±7*	53±2
35	4	1250±43	11±8	15±13	2±0
37	7	50±0	42±2	42±2	31±2
38	6	100±0	$87\pm5^*$	84 ± 4	79 ± 3

Table 4: nbIterations: 200, distance: dtw, normalizeData: 1, objective: object, strategy: p, nbRuns: 20

id	nbClasses	nbSamp	lesPerClass
101	TID CIGODOC	Tibbanip	TCOI CI CIGOO

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1	50	18±21
2	37	21±2
8	12	65±0
9	12	65±0
10	12	65±0
14	14	161±73
16	14	161±73
23	8	300±0
24	10	114±171
31	15	75±0
36	25	36±41
39	8	560±0
40	8	560±0
41	8	560±0

Table 5: Morphology of the datasets

id nb	Classes	nb Samples Per Class	kAverages	kkMeans	kMeans
1	50	18±21	71±1*	70±1	64±1
2	37	21±2	60±1	$62\pm1^*$	58±1
8	12	65±0	31±1*	29±2	26±1
9	12	65±0	35±1	35±2	30±1
10	12	65±0	31±1*	30±1	25±1
14	14	161±73	74±1	$77\pm3^*$	37±2
16	14	161±73	77±2	77 ± 3	37±2
23	8	300±0	87 ± 3	$88{\pm}5$	87 ± 5
24	10	114±171	30±2	32±1*	25±1
31	15	75±0	67±2	66±3	54±2
36	25	36±41	51±1	51±1	42±1
39	8	560±0	46±0	46±1	44±1
40	8	560±0	44±0	45±0*	44±0
41	8	560±0	44 \pm 1 *	43±1	$o\pm o$

Table 6: nbIterations: 200, distance: dtw, normalizeData: 1, objective: object, strategy: p, nbRuns: 20

Table 7: normalizeData: 1, objective: raw, strategy: p, nbRuns: 20

dataSet distance clustering nbIterations	accuracy
50words dtw kAverages 200	0.51±0.02
50words dtw kAverages 1000	0.51±0.02
50words euclidean kAverages 200	0.40±0.01
50words linear kAverages 200 c	0.40±0.01
Adiac dtw kAverages 200 c	0.27±0.02
Adiac dtw kAverages 1000	0.27±0.02
Adiac euclidean kAverages 200 c	0.25±0.02
Adiac linear kAverages 200 c	0.23±0.01
Beef dtw kAverages 200	0.42±0.06
Beef dtw kAverages 1000	0.42±0.06
Beef euclidean kAverages 200	0.40±0.05
Beef linear kAverages 200 c	0.39±0.04
CBF dtw kAverages 200	o.68±o.08
CBF dtw kAverages 1000	o.68±o.08
CBF euclidean kAverages 200	0.61±0.00
CBF linear kAverages 200	0.60±0.01
ChlorineConcentration dtw	0.39±0.00
ChlorineConcentration dtw	0.39±0.00
ChlorineConcentration euclidean kAverages 200	0.39±0.01
ChlorineConcentration linear kAverages 200	0.41±0.02
50words dtw kkMeans 200 d	0.47±0.02
50words dtw kkMeans 1000 d	0.47±0.02
50words euclidean kkMeans 200	0.37±0.01
50words linear kkMeans 200 c	0.38±0.01
Adiac dtw kkMeans 200 d	0.39±0.03
Adiac dtw kkMeans 1000 c	0.39±0.03
Adiac euclidean kkMeans 200 c	0.35±0.02
Adiac linear kkMeans 200 c	0.36±0.02
Beef dtw kkMeans 200 c	0.41±0.03
Beef dtw kkMeans 1000 c	0.41±0.03
Beef euclidean kkMeans 200	0.41±0.03
Beef linear kkMeans 200 c	0.39±0.03
CBF dtw kkMeans 200	0.72±0.04
CBF dtw kkMeans 1000	0.72±0.04
CBF euclidean kkMeans 200	0.64±0.01
CBF linear kkMeans 200	0.64±0.01
ChlorineConcentration dtw kkMeans 200 c	0
ChlorineConcentration dtw kkMeans 1000	0.38±0.01
Choracteriation at Reviews 1000	0.38±0.01 0.38±0.01
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