Supplementary material for the paper titled "Reliable early classification of time series based on discriminating the classes over time"

Raw results for the ECTS method

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Dataset	$sup = 0$	$sup = 0.05$	$sup = 0.1$	$sup = 0.2$	$sup = 0.4$	$sup = 0.8$
50words	0.57	0.57	0.58	0.59	0.62	0.63
Adiac	0.4	0.6	0.6	0.6	0.6	0.61
Beef	0.5	0.5	0.5	0.5	0.5	0.5
CBF	0.85	0.85	0.85	0.85	0.86	0.85
ChlorineConcentration	0.62	0.65	0.65	0.65	0.65	0.65
CinC_ECG_torso	0.87	0.87	0.87	0.89	0.89	0.9
Coffee	0.75	0.75	0.75	0.71	0.75	0.79
Cricket_X	0.56	0.56	0.56	0.57	0.57	0.57
Cricket_Y	0.63	0.63	0.64	0.64	0.64	0.64
Cricket_Z	0.59	0.59	0.62	0.62	0.62	0.62
DiatomSizeReduction	0.8	0.8	0.8	0.8	0.8	0.78
ECG200	0.89	0.9	0.89	0.88	0.88	0.88
ECGFiveDays	0.62	0.62	0.62	0.72	0.78	0.8
FaceAll	0.76	0.76	0.77	0.73	0.73	0.71
FaceFour	0.82	0.82	0.82	0.82	0.82	0.77
FacesUCR	0.71	0.71	0.73	0.74	0.76	0.77
fh	0.75	0.75	0.78	0.77	0.78	0.78
Gun_Point	0.87	0.87	0.91	0.91	0.91	0.91
Haptics	0.37	0.37	0.37	0.37	0.37	0.37
InlineSkate	0.33	0.33	0.33	0.34	0.34	0.34
ItalyPowerDemand	0.94	0.94	0.96	0.95	0.96	0.96
Lighting2	0.7	0.7	0.7	0.75	0.75	0.75
Lighting7	0.58	0.58	0.58	0.55	0.58	0.58
MALLAT	0.85	0.85	0.85	0.85	0.88	0.88
MedicalImages	0.68	0.69	0.69	0.68	0.69	0.68
MoteStrain	0.88	0.88	0.88	0.88	0.87	0.86
OliveOil	0.9	0.9	0.9	0.9	0.9	0.87
OSULeaf	0.49	0.48	0.5	0.51	0.52	0.52
SonyAIBORobotSurface	0.69	0.69	0.69	0.71	0.69	0.69
SonyAIBORobotSurfaceII	0.85	0.85	0.85	0.85	0.85	0.85
StarLightCurves	0.15	0.85	0.85	0.85	0.85	0.85
SwedhLeaf	0.78	0.78	0.78	0.79	0.79	0.78
Symbols	0.81	0.81	0.81	0.81	0.81	0.85
synthetic_control	0.88	0.87	0.87	0.87	0.87	0.88
Trace	0.74	0.74	0.73	0.75	0.75	0.76
TwoLeadECG	0.73	0.73	0.73	0.73	0.74	0.75
Two_Patterns	0.86	0.9	0.91	0.91	0.91	0.91
uWaveGestureLibrary_X	0.73	0.74	0.74	0.74	0.74	0.74
uWaveGestureLibrary_Y	0.63	0.66	0.66	0.66	0.66	0.66
uWaveGestureLibrary_Z	0.65	0.65	0.65	0.65	0.65	0.65
wafer	0.99	0.99	0.99	0.99	1	1
WordsSynonyms	0.59	0.59	0.6	0.61	0.61	0.62
yoga	0.81	0.81	0.82	0.83	0.83	0.83
NIFECG_Thorax1	0.81	0.82	0.82	0.82	0.82	0.82
NIFECG_Thorax2	0.88	0.88	0.88	0.88	0.88	0.88

Table 1: Accuracy values for the ECTS loose method using different support values.

Dataset	$sup = 0$	$sup = 0.05$	$sup = 0.1$	$sup = 0.2$	$sup = 0.4$	$sup = 0.8$
50words	0.58	0.58	0.59	0.6	0.63	0.63
Adiac	0.61	0.61	0.61	0.6	0.61	0.61
Beef	0.53	0.53	0.53	0.53	0.53	0.53
CBF	0.85	0.85	0.85	0.85	0.86	0.85
ChlorineConcentration	0.62	0.65	0.65	0.65	0.65	0.65
CinC_ECG_torso	0.87	0.87	0.87	0.89	0.9	0.9
Coffee	0.79	0.79	0.79	0.75	0.75	0.79
Cricket_X	0.57	0.57	0.56	0.57	0.57	0.57
Cricket_Y	0.63	0.63	0.64	0.64	0.64	0.64
Cricket_Z	0.59	0.59	0.62	0.62	0.62	0.62
DiatomSizeReduction	0.8	0.8	0.8	0.8	0.8	0.78
ECG200	0.89	0.89	0.89	0.88	0.88	0.88
ECGFiveDays	0.62	0.62	0.62	0.72	0.78	0.8
FaceAll	0.74	0.74	0.74	0.72	0.71	0.71
FaceFour	0.77	0.77	0.77	0.77	0.77	0.77
FacesUCR	0.72	0.72	0.73	0.75	0.76	0.77
fh	0.75	0.75	0.77	0.78	0.78	0.78
Gun_Point	0.87	0.87	0.89	0.91	0.91	0.91
Haptics	0.37	0.37	0.37	0.37	0.37	0.37
InlineSkate	0.33	0.33	0.33	0.34	0.34	0.34
ItalyPowerDemand	0.94	0.94	0.96	0.95	0.96	0.96
Lighting2	0.7	0.7	0.7	0.75	0.75	0.75
Lighting7	0.58	0.58	0.58	0.58	0.58	0.55
MALLAT	0.85	0.85	0.85	0.85	0.88	0.88
MedicalImages	0.68	0.69	0.69	0.68	0.69	0.68
MoteStrain	0.88	0.88	0.88	0.88	0.87	0.87
OliveOil	0.9	0.9	0.9	0.9	0.9	0.87
OSULeaf	0.49	0.48	0.49	0.5	0.52	0.52
SonyAIBORobotSurface	0.69	0.69	0.69	0.71	0.69	0.69
SonyAIBORobotSurfaceII	0.84	0.84	0.84	0.84	0.84	0.85
StarLightCurves	0.85	0.85	0.85	0.85	0.85	0.85
SwedhLeaf	0.79	0.79	0.78	0.79	0.79	0.79
Symbols	0.83	0.83	0.83	0.83	0.84	0.87
synthetic_control	0.89	0.88	0.88	0.88	0.88	0.88
Trace	0.74	0.74	0.74	0.74	0.76	0.76
TwoLeadECG	0.73	0.73	0.73	0.73	0.74	0.75
Two_Patterns	0.86	0.9	0.91	0.91	0.91	0.91
uWaveGestureLibrary_X	0.73	0.74	0.74	0.74	0.74	0.74
uWaveGestureLibrary_Y	0.63	0.66	0.66	0.66	0.66	0.66
uWaveGestureLibrary_Z	0.65	0.65	0.65	0.65	0.65	0.65
wafer	0.99	0.99	0.99	0.99	1	1
WordsSynonyms	0.59	0.59	0.6	0.61	0.61	0.62
yoga	0.81	0.81	0.82	0.83	0.83	0.83
NIFECG_Thorax1	0.82	0.82	0.83	0.83	0.83	0.83
NIFECG_Thorax2	0.88	0.88	0.88	0.88	0.88	0.88

Table 2: Accuracy values for the ECTS strict method using different support values.

Dataset	$sup = 0$	$sup = 0.05$	$sup = 0.1$	$sup = 0.2$	$sup = 0.4$	$sup = 0.8$
50words	72.86	74.4	76.39	79.42	89.69	98.83
Adiac	59.09	59.09	59.09	67.83	85.37	90.02
Beef	76.5	76.5	76.5	76.5	92.75	92.75
CBF	71.5	71.5	71.5	75.88	96.19	100
ChlorineConcentration	66.07	99.86	100	100	100	100
CinC_ECG_torso	0.58	58.2	58.2	59.01	68.15	100
Coffee	83.94	83.94	83.94	85.45	86.44	91.41
Cricket_X	71.8	71.8	86.9	95.75	98.01	100
Cricket_Y	66.49	66.49	90.5	97.69	98.52	100
Cricket_Z	67.86	67.93	88.1	96.2	99.42	100
DiatomSizeReduction	14.88	14.88	14.88	14.88	14.89	29.37
ECG200	60.11	67.41	71.73	74.25	74.25	75.1
ECGFiveDays	63.82	63.82	63.82	75.72	92.33	100
FaceAll	63.85	63.85	77.05	90.09	91.95	99.36
FaceFour	72.26	72.26	72.26	72.26	78.7	97.68
FacesUCR	87.21	87.21	89.04	92.53	96.34	98.25
fh	60.94	60.94	69.12	83.67	87.16	92.61
Gun_Point	46.92	46.92	62.83	65.13	66.23	100
Haptics	93.87	93.87	99.47	100	100	100
InlineSkate	85.08	85.08	85.08	95.42	95.85	100
ItalyPowerDemand	79.33	79.33	85.33	91.87	97.32	100
Lighting2	89.01	84.83	85.68	98.56	100	100
Lighting7	86.97	86.97	86.97	91.3	93.96	95.44
MALLAT	69.32	69.32	69.32	69.4	75.54	76.41
MedicalImages	53.87	77.04	82.25	95.36	97.95	100
MoteStrain	79.06	79.06	79.06	79.06	90.7	91.48
OliveOil	87.34	87.34	87.34	87.34	88	93.75
OSULeaf	76.59	79.49	93.2	98.63	100	100
SonyAIBORobotSurface	68.49	68.49	68.49	82.12	89.94	93.74
SonyAIBORobotSurfaceII	54.54	54.54	54.54	54.54	57.78	57.78
StarLightCurves	82.25	95.69	96.34	96.42	96.74	96.74
SwedhLeaf	76.27	76.66	88.84	94.15	96.05	97.74
Symbols	51.3	51.3	51.3	51.3	51.33	61.45
synthetic_control	87.88	91.27	94.48	95.25	95.71	98.65
Trace	50.72	50.72	68.23	80.78	86.04	100
TwoLeadECG	64.43	64.43	64.43	84	84.27	100
Two_Patterns	86.52	98.86	99.88	99.92	100	100
uWaveGestureLibrary_X	85.98	96.48	98.22	98.53	98.91	99.21
uWaveGestureLibrary_Y	86.29	97.85	98.31	99.31	99.61	100
uWaveGestureLibrary_Z	85.03	97.4	99.1	99.72	100	100
wafer	44.38	55.59	55.81	68.96	72.45	100
WordsSynonyms	82.51	83.96	89.16	92.53	96.21	100
yoga	69.41	91.56	96.45	100	100	100
NIFlECG_Thorax1	78.22	82.5	87.9	89.55	90.74	91.26
NIFECG_Thorax2	76.84	81.87	88.08	90.47	91.84	93.64

Table 3: Earliness values for the ECTS loose method using different support values.

Dataset	$sup = 0$	$sup = 0.05$	$sup = 0.1$	$sup = 0.2$	$sup = 0.4$	$sup = 0.8$
50words	77.1	78.89	80.53	84.7	92.43	98.95
Adiac	64.05	64.05	64.05	72.95	89.26	93.68
Beef	77.67	77.67	77.67	77.67	86.74	96.94
CBF	71.5	71.67	71.67	76.05	95.15	100
ChlorineConcentration	67.01	99.76	99.97	100	100	100
CinC_ECG_torso	59.91	59.91	59.91	60.8	70.82	100
Coffee	84.93	84.93	84.93	86.44	86.44	91.41
Cricket_X	73.26	73.26	89.38	96.94	98.77	99.41
Cricket_Y	67.47	67.47	91.07	97.98	99.89	100
Cricket_Z	69.21	69.3	90.15	95.77	99.44	100
DiatomSizeReduction	14.88	14.88	14.88	14.88	14.89	29.37
ECG200	77.13	84.35	93.45	98.43	98.47	98.47
ECGFiveDays	63.82	63.82	63.82	75.72	91.65	100
FaceAll	68.25	68.25	83.88	94.76	96.53	98.36
FaceFour	89.51	89.51	89.51	89.51	97.12	97.68
FacesUCR	89.24	89.24	91.1	94.61	97.36	99.95
fh	65.81	65.81	76.22	87.33	91.38	98.06
Gun_Point	46.92	46.92	60.02	65.13	66.23	100
Haptics	93.9	93.9	99.61	100	100	100
InlineSkate	86.42	86.42	86.42	94.78	96.9	100
ItalyPowerDemand	79.33	79.33	85.33	91.87	97.32	100
Lighting2	89.01	84.83	85.68	98.56	99.64	100
Lighting7	86.98	86.98	86.97	86.98	86.97	91
MALLAT	69.32	69.32	69.32	69.4	75.54	76.41
MedicalImages	54.85	77.32	81.56	95.06	97.91	100
MoteStrain	84.86	84.86	84.86	84.86	97.23	97.23
OliveOil	87.34	87.34	87.34	87.34	88	93.75
OSULeaf	78.2	82.49	94.44	97.89	99.95	100
SonyAIBORobotSurface	68.49	68.49	68.49	82.12	89.94	93.74
SonyAIBORobotSurfaceII	55.81	55.81	55.81	55.81	57.12	57.78
StarLightCurves	82.83	96.21	96.47	96.59	96.6	96.74
SwedhLeaf	77.63	78.02	90.06	95.05	97.28	99.68
Symbols	46.23	46.23	46.23	46.23	49.33	55.73
synthetic_control	89.97	94.33	98	98.35	99.46	99.68
Trace	51.98	51.98	70.88	77.83	91.18	100
TwoLeadECG	64.43	64.43	64.43	84	84.27	100
Two_Patterns	86.79	98.9	99.74	99.92	100	100
uWaveGestureLibrary_X	86.9	97.79	98.89	99.04	99.49	100
uWaveGestureLibrary_Y	86.91	98.62	99.13	99.41	99.62	100
uWaveGestureLibrary_Z	85.98	98.1	99.48	99.67	100	100
wafer	44.38	55.59	55.81	68.96	72.45	100
WordsSynonyms	83.4	85.27	90.44	93.93	96.5	100
yoga	70.74	91.62	96.82	100	100	100
NIFECG_Thorax1	81.54	85.99	91.82	93.67	94.34	95.29
NIFECG_Thorax2	79.83	85.31	91.15	93.18	94.9	96.68

Table 4: Earliness values for the ECTS strict method using different support values.