

All accuracy results of 85 datasets are presented in Table 1. We do the Friedman test among all the methods and Wilcoxon-signed rank test between other eight methods and our BSPCOVER. The Friedman test is a non-parametric statistical test, to detect the differences in 85 datasets across all compared methods. Our statistical significance is $p = 0.00$, which is smaller than 0.05. Thus, we reject the null hypothesis, and there is a difference among these methods. We further conduct the Wilcoxon test against all baselines and find out that all results are statistically significant at $p < 0.05$, except **ST** (larger than 0.05) and **COTE** (based on opposite ranks) from the last row in Table 1.

TABLE 1: Accuracy of our method BSPCOVER and related methods on UCRARCHIVE

Dataset	RotF	DTW_Rn_1NN	ST	LS	FS	COTE	Random	BSPCOVER
Adiac	0.7749	0.6087	0.7826	0.5217	0.5934	0.7903	0.5962	0.7694
ArrowHead	0.7371	0.8	0.7371	0.8457	0.5943	0.8114	0.7533	0.8057
Beef	0.8667	0.6667	0.9	0.8667	0.5667	0.8667	0.5421	0.7333
BeetleFly	0.9	0.65	0.9	0.8	0.7	0.8	0.8	0.9
BirdChicken	0.85	0.7	0.8	0.8	0.75	0.9	0.85	1
Car	0.8	0.7667	0.9167	0.7667	0.75	0.9	0.7453	0.8167
CBF	0.9289	0.9944	0.9744	0.9911	0.94	0.9956	0.9258	0.9967
ChlorineConcentration	0.8474	0.65	0.6997	0.5924	0.5464	0.7271	0.4563	0.6122
CinCECGtorso	0.8058	0.9304	0.9543	0.8696	0.8594	0.9949	0.8723	0.9647
Coffee	1	1	0.9643	1	0.9286	1	0.9347	1
Computers	0.7	0.624	0.736	0.584	0.5	0.74	0.5774	0.672
CricketX	0.6333	0.7795	0.7718	0.741	0.4846	0.8077	0.6895	0.7708
CricketY	0.6103	0.7564	0.7795	0.7179	0.5308	0.8256	0.6773	0.7637
CricketZ	0.6564	0.7359	0.7872	0.741	0.4641	0.8154	0.6891	0.741
DiatomSizeReduction	0.8725	0.9346	0.9248	0.9804	0.866	0.9281	0.8169	0.8725
DistalPhalanxOutlineCorrect	0.7572	0.7246	0.7754	0.779	0.75	0.7609	0.7752	0.8317
DistalPhalanxOutlineAgeGroup	0.7482	0.6259	0.7698	0.7194	0.6547	0.7482	0.7839	0.8525
DistalPhalanxTW	0.705	0.6331	0.6619	0.6259	0.6259	0.6978	0.7681	0.7925
Earthquakes	0.7482	0.7266	0.741	0.741	0.705	0.7482	0.7549	0.8168
ECG200	0.85	0.88	0.83	0.88	0.81	0.88	0.85	0.92
ECG5000	0.9458	0.9251	0.9438	0.9322	0.9227	0.946	0.9264	0.9444
ECGFiveDays	0.9082	0.7967	0.9837	1	0.9977	0.9988	0.8995	1
ElectricDevices	0.7858	0.6308	0.747	0.5875	0.579	0.7133	0.1819	0.2424
FaceAll	0.9112	0.8077	0.7787	0.7485	0.626	0.9178	0.7244	0.7633
FaceFour	0.8182	0.8977	0.8523	0.9659	0.9091	0.8977	0.9332	0.9659
FacesUCR	0.8029	0.9078	0.9059	0.939	0.7059	0.9424	0.7214	0.7829
FiftyWords	0.6615	0.7648	0.7055	0.7297	0.4813	0.7978	0.6745	0.7538
Fish	0.8286	0.8343	0.9886	0.96	0.7829	0.9829	0.8336	0.92
FordA	0.8447	0.6652	0.9712	0.9568	0.7871	0.9568	0.9012	0.9631
FordB	0.7716	0.5988	0.8074	0.9173	0.7284	0.8037	0.8491	0.9016
GunPoint	0.92	0.9133	1	1	0.9467	1	0.8738	1
Ham	0.7143	0.6	0.6857	0.6667	0.6476	0.6476	0.7187	0.7619
HandOutlines	0.9108	0.8784	0.9324	0.4811	0.8108	0.9189	0.7528	0.867
Haptics	0.4383	0.4156	0.5227	0.4675	0.3929	0.5227	0.4131	0.4513
Herring	0.6563	0.5313	0.6719	0.625	0.5313	0.625	0.6047	0.7031
InlineSkate	0.3709	0.3873	0.3727	0.4382	0.1891	0.4945	0.3267	0.3873
InsectWingbeatSound	0.6364	0.5737	0.6268	0.6061	0.4894	0.6525	0.5082	0.5742
ItalyPowerDemand	0.9728	0.9553	0.9475	0.9602	0.9174	0.9611	0.9042	0.965
LargeKitchenAppliances	0.608	0.7947	0.8587	0.7013	0.56	0.8453	0.8237	0.8613
Lightning2	0.6885	0.8689	0.7377	0.8197	0.7049	0.8689	0.8566	0.9016
Lightning7	0.726	0.7123	0.726	0.7945	0.6438	0.8082	0.6408	0.7123
Mallat	0.9493	0.9143	0.9642	0.9501	0.9761	0.9539	0.7251	0.768
Meat	0.9667	0.9333	0.85	0.7333	0.8333	0.9167	0.7014	0.75
MedicalImages	0.7724	0.7474	0.6697	0.6645	0.6237	0.7579	0.6438	0.7209
MiddlePhalanxOutlineCorrect	0.8007	0.7663	0.7938	0.7801	0.7285	0.8041	0.5669	0.6467
MiddlePhalanxOutlineAgeGroup	0.5714	0.5195	0.6429	0.5714	0.5455	0.6364	0.6199	0.805
MiddlePhalanxTW	0.6299	0.5065	0.5195	0.5065	0.5325	0.5714	0.5716	0.6316
MoteStrain	0.8802	0.8658	0.897	0.8834	0.7772	0.9369	0.8229	0.9107
NonInvasiveFatalECGThorax1	0.9053	0.829	0.9496	0.259	0.7104	0.9313	0.8236	0.9147
NonInvasiveFatalECGThorax2	0.9247	0.8702	0.9511	0.7705	0.7537	0.9455	0.8339	0.9382
OliveOil	0.8667	0.8667	0.9	0.1667	0.7333	0.9	0.7	0.8333

TABLE 1: Accuracy of our method BSPCOVER and related methods on UCRARCHIVE (continued)

Dataset	RotF	DTW_Rn_1NN	ST	LS	FS	COTE	Random	BSPCOVER
OSULeaf	0.5702	0.5992	0.9669	0.7769	0.6777	0.9669	0.7539	0.8388
PhalangesOutlinesCorrect	0.8601	0.7611	0.7634	0.7646	0.7436	0.7704	0.6911	0.7844
Phoneme	0.1297	0.2268	0.3207	0.2184	0.1735	0.3492	0.1727	0.2073
Plane	0.9905	1	1	1	1	1	0.9524	1
ProximalPhalanxOutlineCorrect	0.8625	0.7904	0.8832	0.8488	0.8041	0.8694	0.7595	0.8454
ProximalPhalanxOutlineAgeGroup	0.8537	0.7854	0.8439	0.8341	0.7805	0.8537	0.7512	0.8195
ProximalPhalanxTW	0.8244	0.761	0.8049	0.7756	0.7024	0.7805	0.71	0.7975
RefrigerationDevices	0.5653	0.44	0.5813	0.5147	0.3333	0.5467	0.5991	0.5467
ScreenType	0.44	0.4107	0.52	0.4293	0.4133	0.5467	0.424	0.5173
ShapeletSim	0.4111	0.6944	0.9556	0.95	1	0.9611	0.7925	0.8444
ShapesAll	0.7433	0.8017	0.8417	0.7683	0.58	0.8917	0.685	0.8333
SmallKitchenAppliances	0.728	0.672	0.792	0.664	0.3333	0.776	0.6213	0.7333
SonyAIBORobotSurface1	0.8087	0.6955	0.8436	0.8103	0.6855	0.8453	0.8006	0.8835
SonyAIBORobotSurface2	0.808	0.8594	0.9339	0.8751	0.7901	0.9517	0.7993	0.9349
StarlightCurves	0.9693	0.8983	0.9785	0.9466	0.9178	0.9796	0.8933	0.9706
Strawberry	0.973	0.9459	0.9622	0.9108	0.9027	0.9514	0.8957	0.9429
SwedishLeaf	0.8816	0.8464	0.928	0.9072	0.768	0.9552	0.8528	0.9184
Symbols	0.793	0.9377	0.8824	0.9317	0.9337	0.9638	0.8623	0.9337
SyntheticControl	0.9733	0.9833	0.9833	0.9967	0.91	1	0.9557	0.9967
ToeSegmentation1	0.5307	0.75	0.9649	0.9342	0.9561	0.9737	0.8171	0.9649
ToeSegmentation2	0.5846	0.9077	0.9077	0.9154	0.6923	0.9154	0.8077	0.9154
Trace	0.93	0.99	1	1	1	1	0.92	1
TwoLeadECG	0.9701	0.8683	0.9974	0.9965	0.9245	0.993	0.9219	0.9965
TwoPatterns	0.928	0.9985	0.955	0.9933	0.9083	1	0.9264	0.998
UWaveGestureLibraryX	0.7828	0.7744	0.8029	0.7912	0.6946	0.8219	0.7166	0.7901
UWaveGestureLibraryY	0.7144	0.7018	0.7303	0.703	0.5958	0.7585	0.5715	0.6401
UWaveGestureLibraryZ	0.7228	0.675	0.7485	0.7468	0.6382	0.7504	0.6514	0.7349
UWaveGestureLibraryAll	0.9444	0.9623	0.9422	0.9534	0.7887	0.9643	0.8303	0.9495
Wafer	0.9945	0.9959	1	0.9961	0.9968	0.9998	0.9649	0.9981
Wine	0.9444	0.6111	0.7963	0.5	0.7593	0.6481	0.4815	0.5556
WordSynonyms	0.5987	0.7492	0.5705	0.6066	0.431	0.7571	0.5942	0.6849
Worms	0.6104	0.5325	0.7403	0.6104	0.6494	0.6234	0.5193	0.6077
WormsTwoClass	0.6883	0.5844	0.8312	0.7273	0.7273	0.8052	0.7124	0.7459
Yoga	0.8243	0.843	0.8177	0.8343	0.695	0.8767	0.8127	0.882
Rank	3.64	4.28	2.17	3.41	5.68	1.28	5.29	2.25
Wilcoxon Signed Ranks Test	0.001	0	0.315	0	0	0.001	0	-