

APPENDIX ON REPRODUCIBILITY

In Tables A1-A5, to ensure reproducibility of the results, a list of all marked anomalies in each group are listed together with the values of the average anomaly score obtained for all algorithm configurations (model + metric + percentage of anomalies in the dataset). The results for all algorithm configurations are to find in Tables A6-A10.

Table A1 List of manually labelled anomalies for group A

Household ID	comment	LOF 0.1	LOF DTW 0.1	LOF 0.25	LOF DTW 0.25	KNN 0.1	KNN DTW 0.1	KNN 0.25	KNN DTW 0.25	PCA 0.1	PCA 0.25	HBOS 0.1	HBOS 0.25	IF 0.1	IF 0.25
MAC000040	Electricity consumption through the whole day	0.102	0.085	0.39	0.271	0.305	0.237	0.542	0.492	0.102	0.22	0.102	0.441	0.102	0.475
MAC000535	Same level of electricity consumption through the whole day or only at night or total lack of consumption	0.237	0.339	0.441	0.576	0.169	0.22	0.322	0.424	0.492	0.644	0.475	0.797	0.407	0.678
MAC000557	High electricity consumption through the whole day	0.491	0.561	0.772	0.877	0.035	0.123	0.105	0.386	0.93	0.982	0.895	1.0	0.754	0.982
MAC001710	High electricity consumption at night	0.153	0.186	0.288	0.39	0.085	0.203	0.254	0.322	0.322	0.458	0.39	0.712	0.271	0.475
MAC002150	Often no electricity consumption.	0.305	0.254	0.763	0.78	0.492	0.305	0.644	0.559	0.39	0.847	0.288	0.305	0.136	0.678
MAC002562	Often no electricity consumption.	0.211	0.14	0.368	0.368	0.088	0.175	0.386	0.368	0.123	0.368	0.053	0.386	0.298	0.474
MAC002628	High electricity consumption through the whole day	0.22	0.237	0.441	0.559	0.0	0.034	0.068	0.22	0.559	0.729	0.814	0.983	0.492	0.729
MAC003305	Often no electricity consumption.	0.068	0.136	0.271	0.339	0.051	0.102	0.085	0.136	0.339	0.424	0.424	0.492	0.237	0.407
MAC003281	Often only very small electricity consumption	0.474	0.281	0.772	0.684	0.632	0.491	0.807	0.807	0.14	0.526	0.035	0.491	0.211	0.702
MAC003422	High electricity consumption through the whole day	1.0	1.0	1.0	1.0	0.458	0.729	0.661	0.881	1.0	1.0	0.881	1.0	1.0	1.0
MAC003553	Same level of electricity consumption through the whole day	0.593	0.627	0.627	0.712	0.153	0.39	0.339	0.593	0.661	0.712	0.678	0.814	0.661	0.729
MAC003740	Often no electricity consumption. or electricity consumption through the whole day	0.414	0.466	0.707	0.741	0.328	0.414	0.552	0.603	0.552	0.776	0.362	0.655	0.552	0.759
MAC003775	Electricity consumption through the whole day	0.492	0.322	0.678	0.644	0.61	0.559	0.797	0.763	0.288	0.525	0.153	0.661	0.475	0.814
MAC003817	Electricity consumption through the whole day	0.271	0.288	0.542	0.644	0.305	0.407	0.559	0.678	0.288	0.525	0.254	0.627	0.441	0.593
MAC004034	Often no electricity consumption.	0.661	0.678	0.695	0.729	0.136	0.356	0.356	0.542	0.695	0.746	0.729	0.831	0.661	0.729
MAC005523	Often no electricity consumption.	0.0	0.0	0.017	0.034	0.0	0.0	0.051	0.034	0.0	0.017	0.017	0.576	0.0	0.017

Table A2 List of manually labelled anomalies for group D

Household ID	comment	LOF 0.1	LOF DTW 0.1	LOF 0.25	LOF DTW 0.25	KNN 0.1	KNN DTW 0.1	KNN 0.25	KNN DTW 0.25	PCA 0.1	PCA 0.25	HBOS 0.1	HBOS 0.25	IF 0.1	IF 0.25
MAC000073	Electricity consumption only in a few hours during the day	0.175	0.175	0.316	0.474	0.158	0.175	0.456	0.439	0.246	0.544	0.193	0.368	0.175	0.421
MAC000289	Electricity consumption only in a few hours during the day	0.085	0.034	0.203	0.254	0.068	0.068	0.169	0.169	0.051	0.237	0.119	0.254	0.034	0.136
MAC001070	Electricity consumption mostly at night	0.746	0.864	0.949	0.949	0.746	0.78	0.898	0.898	0.61	0.966	0.169	0.678	0.678	1.0
MAC001370	Only very small electricity consumption or no consumption during most days	0.085	0.119	0.339	0.39	0.068	0.119	0.339	0.441	0.644	0.78	0.695	0.966	0.644	0.831
MAC001698	Electricity consumption mostly at night or same level of consumption through the whole day	0.186	0.186	0.203	0.288	0.102	0.136	0.153	0.339	0.525	0.712	0.78	0.966	0.492	0.746
MAC001803	Only very small electricity consumption or no consumption during most days	0.305	0.407	0.593	0.712	0.153	0.288	0.39	0.661	0.695	0.831	0.729	0.814	0.695	0.814
MAC001964	Often no electricity consumption. through the whole day	0.017	0.034	0.103	0.19	0.0	0.0	0.017	0.069	0.328	0.397	0.379	0.483	0.241	0.345
MAC002036	Often no electricity consumption. through the whole day	0.14	0.158	0.298	0.491	0.105	0.105	0.211	0.298	0.035	0.316	0.0	0.035	0.018	0.211
MAC002050	Often no electricity consumption. through the whole day	0.881	1.0	1.0	1.0	0.966	1.0	1.0	1.0	1.0	1.0	0.153	0.983	1.0	1.0
MAC002358	Often no electricity consumption. through the whole day	0.186	0.305	0.492	0.576	0.085	0.169	0.288	0.39	0.458	0.542	0.441	0.661	0.441	0.593
MAC002670	Often no electricity consumption or consumption for a few hours in the middle of the day	0.864	0.932	1.0	1.0	0.983	1.0	1.0	1.0	1.0	1.0	0.169	0.932	0.983	1.0
MAC002946	Often no electricity consumption or consumption for a few hours through the whole day	0.322	0.373	0.424	0.525	0.136	0.254	0.339	0.559	0.475	0.559	0.492	0.864	0.39	0.661
MAC004070	Electricity consumption mostly at night or through the whole day	0.695	0.797	0.847	0.898	0.186	0.356	0.305	0.627	0.966	0.966	0.966	0.983	0.966	1.0
MAC004292	Small electricity consumption mostly once a day	0.138	0.155	0.431	0.362	0.259	0.138	0.552	0.379	0.121	0.431	0.0	0.103	0.103	0.414
MAC004637	Often small electricity consumption only once a day	0.0	0.034	0.085	0.102	0.051	0.102	0.153	0.203	0.254	0.475	0.441	0.831	0.169	0.525
MAC004677	Often no electricity consumption	0.254	0.288	0.39	0.508	0.339	0.373	0.458	0.644	0.424	0.593	0.39	0.729	0.339	0.61
MAC004686	Often no electricity consumption. through the whole day	0.0	0.017	0.052	0.121	0.017	0.0	0.052	0.069	0.086	0.31	0.241	0.586	0.052	0.155
MAC004760	Small electricity consumption mostly once a day	0.373	0.525	0.814	0.847	0.508	0.559	0.831	0.831	0.102	0.678	0.0	0.0	0.017	0.322
MAC004915	Often no electricity consumption. or atypical consumption through the whole day	0.695	0.644	0.949	0.949	0.712	0.729	0.915	0.864	0.475	0.847	0.237	0.661	0.661	0.915
MAC005254	Often Only very small electricity consumption	0.017	0.0	0.068	0.102	0.034	0.034	0.119	0.051	0.017	0.119	0.034	0.186	0.017	0.085
MAC005318	Often High electricity consumption in the middle of the day	0.017	0.034	0.119	0.22	0.068	0.136	0.271	0.508	0.39	0.678	0.559	0.932	0.407	0.695

Table A3 List of manually labelled anomalies for group J

Household ID	comment	LOF 0.1	LOF DTW 0.1	LOF 0.25	LOF DTW 0.25	KNN 0.1	KNN DTW 0.1	KNN 0.25	KNN DTW 0.25	PCA 0.1	PCA 0.25	HBOS 0.1	HBOS 0.25	IF 0.1	IF 0.25
MAC000020	Often no electricity consumption.	0.136	0.051	0.542	0.475	0.0	0.0	0.051	0.186	0.593	0.712	0.661	0.729	0.441	0.695
MAC000520	Often no electricity consumption.	0.458	0.475	0.542	0.525	0.441	0.508	0.559	0.627	0.441	0.542	0.407	0.661	0.424	0.644
MAC001250	High electricity consumption at night	0.271	0.271	0.458	0.458	0.305	0.305	0.458	0.542	0.458	0.542	0.39	0.898	0.458	0.712
MAC001263	Electricity consumption only in a few hours during the day	0.0	0.034	0.322	0.542	0.373	0.542	0.864	0.847	0.119	0.593	0.0	0.0	0.0	0.051
MAC002303	Electricity consumption only in a few hours during the day	0.0	0.0	0.051	0.034	0.017	0.017	0.051	0.102	0.051	0.068	0.017	0.153	0.034	0.102
MAC002610	Electricity consumption fluctuations through the whole day	0.707	0.603	0.828	0.81	0.138	0.138	0.31	0.466	0.862	0.879	0.914	1.0	0.81	0.931
MAC003025	High electricity consumption always during the same night hours, no consumption during the day	0.763	0.78	0.847	0.847	0.729	0.763	0.763	0.814	0.763	0.864	0.169	0.271	0.763	0.864
MAC003791	Often no electricity consumption.	0.475	0.441	0.627	0.644	0.576	0.593	0.644	0.678	0.492	0.559	0.254	0.678	0.525	0.644
MAC004058	Electricity consumption fluctuations through the whole day	0.153	0.085	0.373	0.237	0.119	0.068	0.407	0.39	0.237	0.441	0.373	0.797	0.305	0.678
MAC004897	High electricity consumption always during the same night hours, no consumption during the day	0.169	0.407	0.915	0.983	0.0	0.0	0.0	0.0	0.085	0.966	0.0	0.0	0.0	0.051
MAC004901	High electricity consumption always during the same night hours, no consumption during the day	0.102	0.339	0.847	0.983	0.0	0.0	0.0	0.0	0.0	0.729	0.0	0.0	0.0	0.034
MAC004902	High electricity consumption always during the same night hours, no consumption during the day	0.407	0.61	0.915	1.0	0.0	0.0	0.0	0.0	0.288	0.983	0.0	0.0	0.017	0.169
MAC004903	High electricity consumption always during the same night hours, no consumption during the day	0.576	0.78	0.983	1.0	0.0	0.0	0.0	0.0	0.119	1.0	0.0	0.0	0.017	0.119
MAC004980	High electricity consumption always during the same night hours, no consumption during the day	0.017	0.034	0.339	0.881	0.0	0.0	0.0	0.0	0.0	0.305	0.0	0.0	0.0	0.0
MAC004983	High electricity consumption always during the same night hours, no consumption during the day	0.034	0.203	0.695	0.949	0.0	0.0	0.0	0.0	0.017	0.881	0.0	0.0	0.0	0.017
MAC005061	Often no electricity consumption.	0.259	0.204	0.426	0.722	0.333	0.63	0.481	0.907	0.389	0.889	0.167	0.278	0.389	0.815
MAC005216	High electricity consumption always during the same night hours, no consumption during the day	0.576	0.729	0.966	1.0	0.0	0.0	0.0	0.0	0.136	1.0	0.0	0.0	0.0	0.475
MAC005485	Electricity consumption always during the same hour, no or very small consumption during the rest of the day	0.0	0.017	0.237	0.407	0.153	0.356	0.576	0.661	0.0	0.373	0.034	0.254	0.017	0.237

Table A4 List of manually labelled anomalies for group K

Household ID	comment	LOF 0.1	LOF DTW 0.1	LOF 0.25	LOF DTW 0.25	KNN 0.1	KNN DTW 0.1	KNN 0.25	KNN DTW 0.25	PCA 0.1	PCA 0.25	HBOS 0.1	HBOS 0.25	IF 0.1	IF 0.25
MAC000515	Often no electricity consumption.	0.069	0.017	0.414	0.259	0.069	0.0	0.362	0.224	0.017	0.466	0.0	0.0	0.103	0.483
MAC000660	Very small electricity consumption only in a few hours during the day	0.19	0.207	0.759	0.776	0.466	0.207	0.759	0.621	0.138	0.776	0.0	0.0	0.034	0.259
MAC000912	No electricity consumption or consumption for a few hours in the middle of the day	0.845	0.81	0.931	0.914	0.828	0.793	0.914	0.914	0.862	0.897	0.155	0.707	0.862	0.914
MAC001178	Electricity consumption only in a few hours during the day	0.0	0.0	0.085	0.068	0.017	0.0	0.102	0.034	0.051	0.186	0.169	0.441	0.017	0.237
MAC001286	Electricity consumption always during the same hour in the middle of a day, very small consumption during the rest of the day	0.085	0.339	0.661	0.864	0.254	0.237	0.695	0.661	0.339	0.983	0.0	0.0	0.034	0.322
MAC001309	No electricity consumption	0.119	1.0	0.966	1.0	0.458	1.0	0.983	1.0	1.0	1.0	0.0	0.441	1.0	1.0
MAC001467	High electricity consumption during night hours	0.517	0.483	0.672	0.69	0.483	0.517	0.69	0.724	0.448	0.586	0.241	0.517	0.466	0.638
MAC001681	Often no electricity consumption.	0.441	0.508	0.695	0.78	0.356	0.508	0.661	0.847	0.424	0.661	0.407	0.763	0.424	0.661
MAC001967	High electricity consumption during night hours	0.81	0.776	0.931	0.948	0.741	0.793	0.948	0.948	0.586	0.914	0.552	0.897	0.845	0.966
MAC002664	Often no electricity consumption.	0.448	0.431	0.586	0.603	0.397	0.431	0.603	0.655	0.448	0.5	0.431	0.534	0.466	0.569
MAC002742	Very small electricity consumption through the whole day	0.119	0.153	0.356	0.424	0.051	0.102	0.22	0.322	0.492	0.678	0.763	0.915	0.407	0.712
MAC003990	Electricity consumption during a few hours in the morning	0.085	0.102	0.458	0.492	0.169	0.119	0.407	0.458	0.102	0.288	0.068	0.356	0.085	0.373
MAC004250	High electricity consumption at night or no consumption	0.586	0.655	0.776	0.81	0.621	0.69	0.776	0.879	0.466	0.707	0.069	0.397	0.431	0.707
MAC004603	Electricity consumption only in a few hours during the day	0.034	0.068	0.119	0.169	0.034	0.068	0.136	0.153	0.051	0.356	0.051	0.356	0.068	0.203
MAC004692	Consumption peaks at night and in the morning	0.525	0.525	0.78	0.797	0.576	0.593	0.78	0.746	0.424	0.678	0.0	0.136	0.22	0.576
MAC004772	Electricity consumption fluctuations through the whole day	0.655	0.638	0.879	0.948	0.259	0.328	0.69	0.879	0.931	0.931	0.948	0.983	0.914	0.948

Table A5 List of manually labelled anomalies for group P

Household ID	comment	LOF 0.1	LOF DTW 0.1	LOF 0.25	LOF DTW 0.25	KNN 0.1	KNN DTW 0.1	KNN 0.25	KNN DTW 0.25	PCA 0.1	PCA 0.25	HBOS 0.1	HBOS 0.25	IF 0.1	IF 0.25
MAC000003	Electricity consumption only at night	0.5	0.483	0.845	0.81	0.276	0.19	0.31	0.397	0.81	0.897	0.069	0.155	0.431	0.879
MAC000029	Very small electricity consumption only in a few hours during the day	0.085	0.017	0.186	0.186	0.153	0.068	0.508	0.322	0.0	0.017	0.0	0.119	0.068	0.271
MAC001101	Very small electricity consumption only in a few hours during the day	0.068	0.068	0.136	0.136	0.085	0.085	0.356	0.254	0.051	0.153	0.186	0.559	0.085	0.39
MAC002696	Very small electricity consumption only in a few hours during the day or no consumption	0.203	0.203	0.322	0.373	0.186	0.305	0.492	0.763	0.153	0.237	0.339	0.576	0.203	0.441
MAC001349	Very small fluctuations of electricity consumption through the whole day	0.983	1.0	1.0	1.0	0.966	0.983	0.983	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MAC003246	Very small fluctuations of electricity consumption through the whole day or no consumption	0.814	0.864	0.898	0.915	0.831	0.881	0.898	0.966	0.814	0.983	0.542	0.831	0.831	0.915
MAC004047	Very small fluctuations of electricity consumption through the whole day or no consumption	0.559	0.61	0.627	0.847	0.559	0.746	0.678	0.983	0.475	0.983	0.407	0.407	0.542	0.746
MAC004086	Fluctuations of electricity consumption through the whole day	0.627	0.576	0.712	0.661	0.644	0.61	0.78	0.729	0.525	0.576	0.0	0.051	0.61	0.712
MAC005337	Electricity consumption peak at night, no consumption during the day	0.052	0.069	0.69	0.621	0.0	0.0	0.0	0.0	0.207	0.776	0.0	0.0	0.017	0.259
MAC005340	Electricity consumption peak at night, no consumption during the day	0.0	0.0	0.707	0.776	0.0	0.0	0.0	0.0	0.069	0.966	0.0	0.0	0.0	0.0
MAC005344	Electricity consumption peak at night, low consumption during the day	0.0	0.0	0.138	0.362	0.0	0.0	0.0	0.0	0.0	0.328	0.0	0.0	0.0	0.034
MAC005376	Electricity consumption peak at night, low consumption during the day	0.0	0.0	0.051	0.119	0.0	0.0	0.0	0.0	0.0	0.271	0.0	0.0	0.0	0.0
MAC005377	Electricity consumption peak at night, often no consumption during the day	0.259	0.276	0.879	0.793	0.069	0.069	0.086	0.086	0.414	1.0	0.0	0.017	0.138	0.466
MAC005385	Electricity consumption only at night, no consumption during the day	0.068	0.169	0.847	0.831	0.0	0.0	0.0	0.0	0.424	1.0	0.0	0.0	0.017	0.288
MAC005386	Electricity consumption only at night, no consumption during the day	0.0	0.0	0.61	0.61	0.0	0.0	0.0	0.0	0.051	0.864	0.0	0.0	0.0	0.068
MAC005397	Electricity consumption only at night, very small consumption during the day	0.068	0.085	0.288	0.424	0.068	0.085	0.085	0.102	0.068	0.407	0.068	0.068	0.085	0.085
MAC005398	Electricity consumption only at night, no consumption during the day	0.0	0.0	0.186	0.373	0.0	0.0	0.0	0.0	0.0	0.271	0.0	0.0	0.0	0.0
MAC005422	Electricity consumption only at night, no consumption during the day	0.0	0.017	0.339	0.424	0.0	0.0	0.0	0.0	0.017	0.678	0.0	0.0	0.0	0.0

Table A6 Results for all algorithm configurations for group A

Method	Candidate selection threshold	Anomalies percentage	Anomalies Precision	Anomalies Recall	Anomalies F1-Score	Accuracy	Weighted Precision	Weighted Recall	Weighted F1-Score
LOF	0,30	0,10	0,667	0,500	0,571	0,897	0,889	0,897	0,891
LOF_DTW	0,30	0,10	0,700	0,438	0,538	0,897	0,886	0,897	0,887
LOF	0,30	0,25	0,342	0,813	0,481	0,761	0,877	0,761	0,795
LOF_DTW	0,30	0,25	0,400	0,875	0,549	0,803	0,897	0,803	0,830
LOF	0,50	0,10	0,750	0,188	0,300	0,880	0,867	0,880	0,848
LOF_DTW	0,50	0,10	1,000	0,250	0,400	0,897	0,908	0,897	0,870
LOF	0,50	0,25	0,600	0,563	0,581	0,889	0,886	0,889	0,887
LOF_DTW	0,50	0,25	0,611	0,688	0,647	0,897	0,903	0,897	0,900
KNN	0,30	0,10	0,636	0,438	0,519	0,889	0,877	0,889	0,880
KNN_DTW	0,30	0,10	0,727	0,500	0,593	0,906	0,898	0,906	0,898
KNN	0,30	0,25	0,289	0,688	0,407	0,726	0,848	0,726	0,765
KNN_DTW	0,30	0,25	0,351	0,813	0,491	0,769	0,879	0,769	0,802
KNN	0,50	0,10	0,667	0,125	0,211	0,872	0,848	0,872	0,832
KNN_DTW	0,50	0,10	0,667	0,125	0,211	0,872	0,848	0,872	0,832
KNN	0,50	0,25	0,467	0,438	0,452	0,855	0,851	0,855	0,853
KNN_DTW	0,50	0,25	0,571	0,500	0,533	0,880	0,874	0,880	0,877
PCA	0,30	0,10	1,000	0,625	0,769	0,949	0,952	0,949	0,944
PCA	0,30	0,25	0,368	0,875	0,519	0,778	0,892	0,778	0,809
PCA	0,50	0,10	1,000	0,375	0,545	0,915	0,922	0,915	0,897
PCA	0,50	0,25	0,611	0,688	0,647	0,897	0,903	0,897	0,900
HBOS	0,30	0,10	0,818	0,563	0,667	0,923	0,918	0,923	0,917
HBOS	0,30	0,25	0,457	1,000	0,627	0,838	0,926	0,838	0,859
HBOS	0,50	0,10	0,833	0,313	0,455	0,897	0,892	0,897	0,877
HBOS	0,50	0,25	0,458	0,688	0,550	0,846	0,880	0,846	0,858
IF	0,30	0,10	0,750	0,563	0,643	0,915	0,908	0,915	0,909
IF	0,30	0,25	0,429	0,938	0,588	0,821	0,911	0,821	0,845
IF	0,50	0,10	0,857	0,375	0,522	0,906	0,902	0,906	0,890
IF	0,50	0,25	0,667	0,750	0,706	0,915	0,920	0,915	0,917

Table A7 Results for all algorithm configurations for group D

Method	Candidate selection threshold	Anomalies percentage	Anomalies Precision	Anomalies Recall	Anomalies F1-Score	Accuracy	Weighted Precision	Weighted Recall	Weighted F1-Score
LOF	0,30	0,10	0,471	0,381	0,421	0,896	0,887	0,896	0,891
LOF DTW	0,30	0,10	0,563	0,429	0,486	0,910	0,901	0,910	0,904
LOF	0,30	0,25	0,188	0,619	0,289	0,697	0,868	0,697	0,756
LOF DTW	0,30	0,25	0,219	0,667	0,329	0,730	0,879	0,730	0,781
LOF	0,50	0,10	0,556	0,238	0,333	0,905	0,884	0,905	0,888
LOF DTW	0,50	0,10	0,667	0,286	0,400	0,915	0,900	0,915	0,899
LOF	0,50	0,25	0,304	0,333	0,318	0,858	0,864	0,858	0,861
LOF DTW	0,50	0,25	0,345	0,476	0,400	0,858	0,880	0,858	0,868
KNN	0,30	0,10	0,400	0,286	0,333	0,886	0,871	0,886	0,878
KNN DTW	0,30	0,10	0,368	0,333	0,350	0,877	0,871	0,877	0,874
KNN	0,30	0,25	0,176	0,571	0,270	0,692	0,861	0,692	0,752
KNN DTW	0,30	0,25	0,217	0,714	0,333	0,716	0,884	0,716	0,771
KNN	0,50	0,10	0,833	0,238	0,370	0,919	0,913	0,919	0,899
KNN DTW	0,50	0,10	0,625	0,238	0,345	0,910	0,892	0,910	0,891
KNN	0,50	0,25	0,261	0,286	0,273	0,848	0,855	0,848	0,851
KNN DTW	0,50	0,25	0,417	0,476	0,444	0,882	0,889	0,882	0,885
PCA	0,30	0,10	0,619	0,619	0,619	0,924	0,924	0,924	0,924
PCA	0,30	0,25	0,271	0,905	0,418	0,749	0,915	0,749	0,798
PCA	0,50	0,10	0,875	0,333	0,483	0,929	0,925	0,929	0,914
PCA	0,50	0,25	0,483	0,667	0,560	0,896	0,914	0,896	0,903
HBOS	0,30	0,10	0,476	0,476	0,476	0,896	0,896	0,896	0,896
HBOS	0,30	0,25	0,239	0,762	0,364	0,735	0,893	0,735	0,786
HBOS	0,50	0,10	0,556	0,238	0,333	0,905	0,884	0,905	0,888
HBOS	0,50	0,25	0,389	0,667	0,491	0,863	0,903	0,863	0,878
IF	0,30	0,10	0,571	0,571	0,571	0,915	0,915	0,915	0,915
IF	0,30	0,25	0,262	0,810	0,395	0,754	0,902	0,754	0,800
IF	0,50	0,10	0,875	0,333	0,483	0,929	0,925	0,929	0,914
IF	0,50	0,25	0,433	0,619	0,510	0,882	0,904	0,882	0,891

Table A8 Results for all algorithm configurations for group J

Method	Candidate selection threshold	Anomalies percentage	Anomalies Precision	Anomalies Recall	Anomalies F1-Score	Accuracy	Weighted Precision	Weighted Recall	Weighted F1-Score
LOF	0,30	0,10	1,000	0,389	0,560	0,859	0,881	0,859	0,834
LOF_DTW	0,30	0,10	1,000	0,500	0,667	0,885	0,900	0,885	0,869
LOF	0,30	0,25	0,571	0,889	0,696	0,821	0,870	0,821	0,832
LOF_DTW	0,30	0,25	0,667	0,889	0,762	0,872	0,895	0,872	0,878
LOF	0,50	0,10	1,000	0,222	0,364	0,821	0,854	0,821	0,773
LOF_DTW	0,50	0,10	1,000	0,278	0,435	0,833	0,863	0,833	0,794
LOF	0,50	0,25	0,917	0,611	0,733	0,897	0,899	0,897	0,890
LOF_DTW	0,50	0,25	0,929	0,722	0,813	0,923	0,923	0,923	0,920
KNN	0,30	0,10	0,667	0,333	0,444	0,808	0,789	0,808	0,782
KNN_DTW	0,30	0,10	0,778	0,389	0,519	0,833	0,826	0,833	0,811
KNN	0,30	0,25	0,333	0,500	0,400	0,654	0,710	0,654	0,674
KNN_DTW	0,30	0,25	0,375	0,500	0,429	0,692	0,728	0,692	0,706
KNN	0,50	0,10	1,000	0,111	0,200	0,795	0,838	0,795	0,725
KNN_DTW	0,50	0,10	1,000	0,278	0,435	0,833	0,863	0,833	0,794
KNN	0,50	0,25	0,357	0,278	0,313	0,718	0,695	0,718	0,705
KNN_DTW	0,50	0,25	0,438	0,389	0,412	0,744	0,734	0,744	0,738
PCA	0,30	0,10	0,778	0,389	0,519	0,833	0,826	0,833	0,811
PCA	0,30	0,25	0,708	0,944	0,810	0,897	0,918	0,897	0,902
PCA	0,50	0,10	1,000	0,167	0,286	0,808	0,846	0,808	0,750
PCA	0,50	0,25	0,824	0,778	0,800	0,910	0,909	0,910	0,909
HBOS	0,30	0,10	0,556	0,278	0,370	0,782	0,753	0,782	0,753
HBOS	0,30	0,25	0,286	0,333	0,308	0,654	0,673	0,654	0,663
HBOS	0,50	0,10	0,500	0,111	0,182	0,769	0,718	0,769	0,708
HBOS	0,50	0,25	0,333	0,333	0,333	0,692	0,692	0,692	0,692
IF	0,30	0,10	1,000	0,444	0,615	0,872	0,890	0,872	0,852
IF	0,30	0,25	0,321	0,500	0,391	0,641	0,705	0,641	0,664
IF	0,50	0,10	1,000	0,167	0,286	0,808	0,846	0,808	0,750
IF	0,50	0,25	0,615	0,444	0,516	0,808	0,793	0,808	0,796

Table A9 Results for all algorithm configurations for group K

Method	Candidate selection threshold	Anomalies percentage	Anomalies Precision	Anomalies Recall	Anomalies F1-Score	Accuracy	Weighted Precision	Weighted Recall	Weighted F1-Score
LOF	0,30	0,10	0,533	0,500	0,516	0,892	0,889	0,892	0,891
LOF_DTW	0,30	0,10	0,714	0,625	0,667	0,928	0,925	0,928	0,926
LOF	0,30	0,25	0,318	0,875	0,467	0,770	0,903	0,770	0,809
LOF_DTW	0,30	0,25	0,325	0,813	0,464	0,784	0,895	0,784	0,819
LOF	0,50	0,10	0,750	0,375	0,500	0,914	0,904	0,914	0,901
LOF_DTW	0,50	0,10	0,875	0,438	0,583	0,928	0,925	0,928	0,917
LOF	0,50	0,25	0,500	0,688	0,579	0,885	0,905	0,885	0,893
LOF_DTW	0,50	0,25	0,500	0,688	0,579	0,885	0,905	0,885	0,893
KNN	0,30	0,10	0,643	0,563	0,600	0,914	0,909	0,914	0,911
KNN_DTW	0,30	0,10	0,600	0,563	0,581	0,906	0,904	0,906	0,905
KNN	0,30	0,25	0,302	0,813	0,441	0,763	0,892	0,763	0,802
KNN_DTW	0,30	0,25	0,317	0,813	0,456	0,777	0,894	0,777	0,813
KNN	0,50	0,10	0,800	0,250	0,381	0,906	0,898	0,906	0,884
KNN_DTW	0,50	0,10	0,875	0,438	0,583	0,928	0,925	0,928	0,917
KNN	0,50	0,25	0,524	0,688	0,595	0,892	0,908	0,892	0,898
KNN_DTW	0,50	0,25	0,524	0,688	0,595	0,892	0,908	0,892	0,898
PCA	0,30	0,10	0,647	0,688	0,667	0,921	0,923	0,921	0,922
PCA	0,30	0,25	0,311	0,875	0,459	0,763	0,902	0,763	0,803
PCA	0,50	0,10	0,800	0,250	0,381	0,906	0,898	0,906	0,884
PCA	0,50	0,25	0,571	0,750	0,649	0,906	0,921	0,906	0,912
HBOS	0,30	0,10	0,357	0,313	0,333	0,856	0,848	0,856	0,852
HBOS	0,30	0,25	0,255	0,750	0,381	0,719	0,876	0,719	0,768
HBOS	0,50	0,10	0,375	0,188	0,250	0,871	0,840	0,871	0,851
HBOS	0,50	0,25	0,259	0,438	0,326	0,791	0,844	0,791	0,813
IF	0,30	0,10	0,563	0,563	0,563	0,899	0,899	0,899	0,899
IF	0,30	0,25	0,308	0,750	0,436	0,777	0,885	0,777	0,812
IF	0,50	0,10	0,833	0,313	0,455	0,914	0,908	0,914	0,896
IF	0,50	0,25	0,500	0,688	0,579	0,885	0,905	0,885	0,893

Table A10 Results for all algorithm configurations for group P

Method	Candidate selection threshold	Anomalies percentage	Anomalies Precision	Anomalies Recall	Anomalies F1-Score	Accuracy	Weighted Precision	Weighted Recall	Weighted F1-Score
LOF	0,30	0,10	0,714	0,278	0,400	0,828	0,812	0,828	0,796
LOF_DTW	0,30	0,10	0,714	0,278	0,400	0,828	0,812	0,828	0,796
LOF	0,30	0,25	0,444	0,667	0,533	0,759	0,806	0,759	0,774
LOF_DTW	0,30	0,25	0,517	0,833	0,638	0,805	0,859	0,805	0,819
LOF	0,50	0,10	1,000	0,278	0,435	0,851	0,874	0,851	0,815
LOF_DTW	0,50	0,10	1,000	0,222	0,364	0,839	0,866	0,839	0,795
LOF	0,50	0,25	0,625	0,556	0,588	0,839	0,833	0,839	0,835
LOF_DTW	0,50	0,25	0,667	0,556	0,606	0,851	0,843	0,851	0,845
KNN	0,30	0,10	0,571	0,222	0,320	0,805	0,773	0,805	0,769
KNN_DTW	0,30	0,10	0,625	0,278	0,385	0,816	0,792	0,816	0,787
KNN	0,30	0,25	0,250	0,444	0,320	0,609	0,701	0,609	0,642
KNN_DTW	0,30	0,25	0,233	0,389	0,292	0,609	0,688	0,609	0,639
KNN	0,50	0,10	1,000	0,222	0,364	0,839	0,866	0,839	0,795
KNN_DTW	0,50	0,10	1,000	0,222	0,364	0,839	0,866	0,839	0,795
KNN	0,50	0,25	0,385	0,278	0,323	0,759	0,733	0,759	0,743
KNN_DTW	0,50	0,25	0,357	0,278	0,313	0,747	0,726	0,747	0,735
PCA	0,30	0,10	0,700	0,389	0,500	0,839	0,825	0,839	0,821
PCA	0,30	0,25	0,565	0,722	0,634	0,828	0,848	0,828	0,835
PCA	0,50	0,10	1,000	0,222	0,364	0,839	0,866	0,839	0,795
PCA	0,50	0,25	0,688	0,611	0,647	0,862	0,857	0,862	0,859
HBOS	0,30	0,10	0,400	0,222	0,286	0,770	0,732	0,770	0,744
HBOS	0,30	0,25	0,179	0,278	0,217	0,586	0,655	0,586	0,615
HBOS	0,50	0,10	0,500	0,111	0,182	0,793	0,744	0,793	0,737
HBOS	0,50	0,25	0,222	0,222	0,222	0,678	0,678	0,678	0,678
IF	0,30	0,10	0,625	0,278	0,385	0,816	0,792	0,816	0,787
IF	0,30	0,25	0,320	0,444	0,372	0,690	0,731	0,690	0,707
IF	0,50	0,10	1,000	0,278	0,435	0,851	0,874	0,851	0,815
IF	0,50	0,25	0,417	0,278	0,333	0,770	0,742	0,770	0,752