

Anomaly detection in quasi-periodic energy consumption data series: a comparison of algorithms - Annex

Basic Statistics Results

Performance:

	Fridge 1				Fridge 2				Fridge 3			
Training Period	Precision	Recall	F1	Threshold	Precision	Recall	F1	Threshold	Precision	Recall	F1	Threshold
1 month	0.109	0.790	0.192	0.415	0.146	0.864	0.250	0.592	0.029	0.974	0.057	0.636
3 weeks	0.103	0.744	0.182	0.230	0.147	0.863	0.251	1.039	0.029	0.974	0.057	0.440
2 weeks	0.111	0.804	0.195	0.333	0.288	0.857	0.431	unlimited	0.029	0.974	0.057	0.835

Averages:

	Precision		Recall		F1	
	avg	std	avg	std	avg	std
Fridge1	0.108	0.004	0.779	0.031	0.190	0.007
Fridge2	0.194	0.082	0.861	0.004	0.311	0.104
Fridge3	0.029	0.000	0.974	0.000	0.057	0.000
Overall	0.110	0.082	0.871	0.086	0.186	0.122

AR Results

Performance:

		Fridge 1				Fridge 2				Fridge 3			
Training Period	Window size	Precision	Recall	F1	Threshold	Precision	Recall	F1	Threshold	Precision	Recall	F1	Threshold
1 month	0.5p	0.781	0.758	0.769	18.028	0.671	0.817	0.737	13.082	0.970	0.805	0.880	26.066
3 weeks	0.5p	0.744	0.769	0.756	18.872	0.676	0.816	0.739	13.806	0.970	0.805	0.880	26.690
2 weeks	0.5p	0.805	0.719	0.760	20.886	0.669	0.821	0.737	13.233	0.972	0.807	0.882	27.069

ARIMA Results
LOF Results
OC SVM
ISOF Results
GRU Results
LSTM Results
GRU-MS Results
LSTM-MS Results
GRU-AE Results
LSTM-AE Results