Appendix A. Results

Appendix A.1. Forecasting accuracy

Table A.1: Best WAPE results obtained with each type of architecture for all dataset

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12
MLP	14.886	21.245	0.367	21.114	17.191	22.930	30.193	21.365	45.515	4.373	1.891	59.710
ERNN	12.303	18.101	0.298	15.621	**14.178**	18.997	27.407	**17.958**	33.354	3.388	1.374	46.739
LSTM	12.475	**15.352**	0.300	15.282	14.281	18.589	24.333	19.081	**31.960**	3.359	**1.314**	**46.477**
GRU	**11.596**	16.772	0.314	**15.182**	14.298	18.682	25.054	18.443	33.306	3.363	1.322	46.682
ESN	12.552	17.227	**0.283**	17.184	14.366	19.626	25.490	18.232	38.488	3.590	1.459	47.149
CNN	12.479	17.143	0.303	15.612	14.256	18.852	29.350	18.497	34.406	**3.337**	1.333	46.914
TCN	12.866	19.091	0.303	15.587	14.575	**18.528**	**23.930**	18.893	32.927	3.398	1.320	46.556

Table A.2: Rank of best WAPE results obtained with each type of architecture for all dataset

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
MLP	7	7	7	7	7	7	7	7	7	7	7	7	7
ERNN	2	5	2	5	1	5	5	**1**	4	4	5	4	3.583
LSTM	3	**1**	3	2	3	2	2	6	**1**	2	**1**	**1**	**2.25**
GRU	**1**	2	6	**1**	4	3	3	3	3	3	3	3	2.917
ESN	5	4	**1**	6	5	6	4	2	6	6	6	6	4.75
CNN	4	3	4	4	2	4	6	4	5	**1**	4	5	3.833
TCN	6	6	5	3	6	**1**	**1**	5	2	5	2	2	3.667

Table A.3: Mean WAPE results obtained with each type of architecture for all dataset

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12
MLP	17.779	37.753	0.636	32.151	18.051	24.510	63.237	28.863	49.971	4.545	2.149	62.391
ERNN	19.894	36.901	7.191	31.251	24.105	26.035	52.536	32.576	48.333	10.303	6.139	53.185
LSTM	16.623	45.911	0.509	**25.871**	15.968	20.728	**42.418**	26.612	39.475	3.557	1.565	**49.075**
GRU	**15.532**	34.389	0.541	26.506	17.484	21.674	44.609	27.945	42.762	3.933	1.881	50.472
ESN	16.788	**29.162**	0.575	28.089	16.359	23.912	50.813	31.304	46.569	3.984	2.371	53.470
CNN	15.567	37.333	**0.490**	26.142	**15.539**	**20.141**	49.751	**25.261**	40.255	**3.542**	1.570	49.274
TCN	15.948	40.627	0.679	26.936	15.723	20.256	48.815	27.062	**38.770**	3.571	**1.559**	51.206

Table A.4: Rank of mean WAPE results obtained with each type of architecture for all dataset

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
MLP	6	5	5	7	6	6	7	5	7	6	5	7	6.000
ERNN	7	3	7	6	7	7	6	7	6	7	7	5	6.250
LSTM	4	7	2	**1**	3	3	**1**	2	2	2	2	**1**	2.500
GRU	**1**	2	3	3	5	4	2	4	4	4	4	3	3.250
ESN	5	**1**	4	5	4	5	5	6	5	5	6	6	4.750
CNN	2	4	**1**	2	**1**	**1**	4	**1**	3	**1**	3	2	**2.083**
TCN	3	6	6	4	2	2	3	3	**1**	3	**1**	4	3.167

Table A.5: Median WAPE results obtained with each type of architecture for all dataset

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12
MLP	17.569	32.350	0.550	23.214	17.967	24.407	63.633	24.621	49.756	4.493	2.084	61.935
ERNN	16.292	32.254	0.663	24.870	16.394	20.664	50.335	30.628	42.026	3.811	1.858	49.236
LSTM	16.331	43.250	0.453	**20.885**	**15.420**	**19.972**	**42.452**	24.969	**36.760**	**3.502**	**1.478**	48.096
GRU	**15.352**	30.687	0.458	21.576	15.654	20.196	44.064	24.921	38.071	3.513	1.547	48.594
ESN	16.947	**26.375**	0.479	21.978	16.332	23.659	48.628	34.407	44.496	3.738	1.711	50.855
CNN	15.490	32.997	**0.443**	21.036	15.489	20.031	48.001	**22.489**	40.290	3.516	1.538	48.244
TCN	15.468	35.624	0.506	21.145	15.591	20.087	47.552	23.457	37.828	3.546	1.518	**47.875**

Table A.6: Rank of median WAPE results obtained with each type of architecture for all dataset

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
MLP	7	4	6	6	7	7	7	3	7	7	7	7	6.250
ERNN	4	3	7	7	6	5	6	6	5	6	6	5	5.500
LSTM	5	7	2	**1**	**1**	**1**	**1**	5	**1**	**1**	**1**	2	**2.333**
GRU	**1**	2	3	4	4	4	2	4	3	2	4	4	3.083
ESN	6	**1**	4	5	5	6	5	7	6	5	5	6	5.083
CNN	3	5	**1**	2	2	2	4	**1**	4	3	3	3	2.750
TCN	2	6	5	3	3	3	3	2	2	4	2	**1**	3.000

Table A.7: Standar daviation of WAPE results obtained with each type of architecture for all dataset

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12
MLP	1.721	14.320	0.476	14.134	**0.533**	0.758	10.613	7.423	**1.426**	0.175	0.211	**1.895**
ERNN	10.742	15.471	15.217	15.068	15.236	10.463	12.745	15.655	15.141	15.661	11.074	9.392
LSTM	2.706	19.437	0.193	**10.804**	2.707	3.229	**6.515**	**5.287**	8.743	0.429	0.501	3.510
GRU	2.836	13.647	0.393	11.125	6.689	6.099	7.874	8.468	11.425	2.050	2.110	6.448
ESN	2.414	**9.317**	0.642	11.670	1.162	3.179	11.603	7.658	5.806	2.373	5.507	5.534
CNN	**1.133**	14.550	**0.169**	10.920	0.580	**0.742**	11.055	5.371	2.618	**0.111**	**0.159**	3.300
TCN	2.238	15.396	1.213	11.251	1.195	1.055	12.323	7.970	4.263	0.177	0.269	9.006

Table A.8: Rank of the standard deviation of WAPE results obtained with each type of architecture for all dataset

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
MLP	2	3	4	6	**1**	2	3	3	**1**	2	2	**1**	2.500
ERNN	7	6	7	7	7	7	7	7	7	7	7	7	6.917
LSTM	5	7	2	**1**	5	5	**1**	**1**	5	4	4	3	3.583
GRU	6	2	3	3	6	6	2	6	6	5	5	5	4.583
ESN	4	**1**	5	5	3	4	5	4	4	6	6	4	4.250
CNN	**1**	4	**1**	2	2	**1**	4	2	2	**1**	**1**	2	**1.917**
TCN	3	5	6	4	4	3	6	5	3	3	3	6	4.250

Table A.9: Wosrt WAPE results obtained with each type of architecture for all dataset

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12
MLP	25.553	92.741	7.898	63.055	21.698	28.318	98.756	43.519	56.086	6.172	3.154	80.676
ERNN	85.699	99.597	97.163	98.322	97.388	96.768	97.180	99.202	98.850	96.364	80.220	98.455
LSTM	43.009	99.658	2.693	**49.883**	39.072	38.911	**61.861**	52.422	99.117	8.184	7.101	91.350
GRU	67.477	98.414	6.127	73.873	81.607	77.894	86.133	95.019	96.967	27.948	30.048	99.414
ESN	21.937	**87.018**	11.420	55.281	26.451	34.393	92.084	43.182	65.106	44.074	94.399	**78.555**
CNN	**20.119**	99.836	**1.722**	51.070	**17.916**	**23.097**	88.125	**35.132**	**51.757**	**4.342**	**2.759**	98.456
TCN	36.169	98.345	16.955	68.075	45.090	31.510	91.568	80.681	77.167	7.161	4.716	99.008

Table A.10: Rank of worst WAPE results obtained with each type of architecture for all dataset

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12	MEAN
MLP	3	2	4	4	2	2	7	3	2	2	2	2	2.917
ERNN	7	5	7	7	7	7	6	7	6	7	6	4	6.333
LSTM	5	6	2	**1**	4	5	**1**	4	7	4	4	3	3.833
GRU	6	4	3	6	6	6	2	6	5	5	5	7	5.083
ESN	2	**1**	5	3	3	4	5	2	3	6	7	**1**	3.500
CNN	**1**	7	**1**	2	**1**	**1**	3	**1**	**1**	**1**	**1**	5	**2.083**
TCN	4	3	6	5	5	3	4	5	4	3	3	6	4.250

Appendix A.2. Computational time

Table A.11: Average training time in milliseconds of each DL architecture for every dataset.

Model \ Dataset	3	4	5	6	7	8	9	10	11	12
MLP	**1.079**	**40.345**	**1.029**	**1.050**	**1.038**	**1.108**	**1.025**	**1.026**	**1.037**	**1.097**
ERNN	15.305	107.097	20.739	11.020	6.533	48.519	11.078	48.641	20.842	7.769
LSTM	14.180	254.539	6.771	7.279	5.690	19.192	6.124	10.865	8.769	11.295
GRU	13.831	252.813	5.652	6.938	5.654	19.350	6.214	10.379	8.509	11.197
ESN	4.901	60.411	6.519	3.910	2.748	13.453	3.887	13.704	6.533	4.840
CNN	2.985	100.589	1.794	2.135	2.115	2.802	2.012	1.922	2.174	2.928
TCN	8.370	272.509	8.144	7.734	7.410	10.245	7.656	9.530	8.379	9.133

Table A.12: Average inference time in milliseconds of each DL architecture for every dataset.

Model \ Dataset	2	4	5	6	7	8	9	10	11	12
MLP	**1.079**	**40.345**	**1.029**	**1.050**	**1.038**	**1.108**	**1.025**	**1.026**	**1.037**	**1.097**
ERNN	15.305	107.097	20.739	11.020	6.533	48.519	11.078	48.641	20.842	7.769
LSTM	14.180	254.539	6.771	7.279	5.690	19.192	6.124	10.865	8.769	11.295
GRU	13.831	252.813	5.652	6.938	5.654	19.350	6.214	10.379	8.509	11.197
ESN	4.901	60.411	6.519	3.910	2.748	13.453	3.887	13.704	6.533	4.840
CNN	2.985	100.589	1.794	2.135	2.115	2.802	2.012	1.922	2.174	2.928
TCN	8.370	272.509	8.144	7.734	7.410	10.245	7.656	9.530	8.379	9.133

Table A.13: Average training time ranking of each DL architecture for every dataset.

Model \ Dataset	3	4	5	6	7	8	9	10	11	12	MEAN
MLP	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
ERNN	7	4	7	7	6	7	7	7	7	4	6.3
LSTM	6	6	5	5	5	5	4	5	6	7	5.4
GRU	5	5	3	4	4	6	5	4	5	6	4.7
ESN	3	2	4	3	3	4	3	6	3	3	3.4
CNN	2	3	2	2	2	2	2	2	2	2	2.1
TCN	4	7	6	6	7	3	6	3	4	5	5.1

Table A.14: Average inference time ranking of each DL architecture for every dataset.

Model \ Dataset	2	4	5	6	7	8	9	10	11	12	MEAN
MLP	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
ERNN	7	4	7	7	6	7	7	7	7	4	6.3
LSTM	6	6	5	5	5	5	4	5	6	7	5.4
GRU	5	5	3	4	4	6	5	4	5	6	4.7
ESN	3	2	4	3	3	4	3	6	3	3	3.4
CNN	2	3	2	2	2	2	2	2	2	2	2.1
TCN	4	7	6	6	7	3	6	3	4	5	5.1

Table A.15: Training time in milliseconds of the best model for each DL architecture and each dataset.

Model \ Dataset	3	4	5	6	7	8	9	10	11	12
MLP	**0.923**	56.111	**1.253**	**1.891**	**1.031**	**1.098**	**1.579**	**1.046**	**1.370**	**0.833**
ERNN	15.479	156.853	12.552	6.580	15.021	17.023	25.266	40.247	16.998	10.408
LSTM	14.672	156.110	3.138	7.708	6.338	9.048	3.702	6.991	7.689	2.595
GRU	8.405	378.224	4.753	8.115	2.459	10.355	2.454	4.692	9.995	9.453
ESN	5.361	**40.346**	7.838	4.512	1.676	3.807	4.304	21.884	9.694	10.208
CNN	1.614	145.275	1.487	2.087	1.926	3.026	1.879	2.643	4.662	4.996
TCN	5.924	195.947	4.144	9.735	4.932	12.073	9.773	4.854	5.182	10.636

Table A.16: Inference time in milliseconds of the best model for each DL architecture and each dataset.

Model \ Dataset	2	4	5	6	7	8	9	10	11	12
MLP	**0.243**	**2.780**	**0.261**	**0.483**	**0.485**	**0.508**	**0.587**	**0.268**	**0.434**	**3.885**
ERNN	4.085	14.369	2.906	1.779	4.811	6.147	6.031	8.449	3.649	25.183
LSTM	1.007	21.877	0.877	3.786	6.354	2.655	2.315	1.638	1.651	22.180
GRU	3.439	36.086	1.508	1.698	1.625	3.313	1.233	1.217	2.264	38.833
ESN	2.611	9.513	7.408	3.780	1.486	3.949	4.345	21.388	9.351	29.083
CNN	0.342	4.680	0.281	0.783	0.789	1.047	0.588	0.550	0.804	15.491
TCN	4.653	13.086	1.133	2.947	2.166	2.705	4.191	1.081	1.988	59.243

Table A.17: Training time ranking of the best model for each DL architecture and each dataset.

Model \ Dataset	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	MEAN
MLP	**1**	2	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1.1**
ERNN	7	5	7	4	7	7	7	7	7	6	6.4
LSTM	6	4	3	5	6	4	4	5	4	2	4.3
GRU	5	7	5	6	4	5	3	3	6	4	4.8
ESN	3	**1**	6	3	2	3	5	6	5	5	3.9
CNN	2	3	2	2	3	2	2	2	2	3	2.3
TCN	4	6	4	7	5	6	6	4	3	7	5.2

Table A.18: Inference time ranking of the best model for each DL architecture and each dataset.

Model \ Dataset	**2**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	MEAN
MLP	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
ERNN	6	5	6	4	6	7	7	6	6	4	5.7
LSTM	3	6	3	7	7	3	4	5	3	3	4.4
GRU	5	7	5	3	4	5	3	4	5	6	4.7
ESN	4	3	7	6	3	6	6	7	7	5	5.4
CNN	2	2	2	2	2	2	2	2	2	2	2
TCN	7	4	4	5	5	4	5	3	4	7	4.8

Table A.19: Standard deviation training time in milliseconds of each DL architecture for every dataset.

Model \ Dataset	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
MLP	**0.239**	**16.479**	**0.132**	**0.193**	**0.176**	**0.237**	**0.173**	**0.126**	**0.184**	**0.203**
ERNN	10.144	57.132	13.581	6.716	3.717	33.359	6.695	33.226	13.549	4.927
LSTM	6.749	136.305	3.930	5.388	3.641	9.943	4.795	6.787	6.744	5.590
GRU	6.426	135.659	2.651	5.156	3.609	9.596	4.915	6.536	6.635	5.227
ESN	2.627	27.055	3.539	1.828	1.107	7.822	1.821	8.314	3.567	3.175
CNN	1.225	38.411	0.308	0.885	0.813	1.058	0.731	0.374	0.870	1.252
TCN	3.634	140.858	4.221	3.629	3.211	5.137	3.670	5.498	4.164	3.256

Table A.20: Standard deviation inference time in milliseconds of each DL architecture for every dataset.

Model \ Dataset	**2**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
MLP	**0.011**	1.006	**0.022**	**0.074**	**0.126**	**0.156**	**0.086**	**0.020**	**0.066**	**2.004**
ERNN	1.952	4.031	2.802	1.549	1.171	6.199	1.633	6.422	2.955	7.069
LSTM	1.700	12.154	0.844	1.246	1.866	3.302	1.501	1.343	1.356	24.471
GRU	1.621	10.612	0.797	1.414	1.757	2.914	1.571	1.339	1.293	21.462
ESN	2.595	3.868	3.536	1.927	1.390	8.333	2.018	8.366	3.687	8.001
CNN	0.074	**0.563**	0.088	0.125	0.196	0.302	0.165	0.074	0.123	3.483
TCN	1.375	7.703	0.702	1.350	1.628	1.989	1.363	0.827	1.080	15.024

Table A.21: Standard deviation training time ranking of each DL architecture for every dataset.

Model \ Dataset	3	4	5	6	7	8	9	10	11	12	MEAN
MLP	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
ERNN	7	4	7	7	7	7	7	7	7	5	6.5
LSTM	6	6	5	6	6	6	5	5	6	7	5.8
GRU	5	5	3	5	5	5	6	4	5	6	4.9
ESN	3	2	4	3	3	4	3	6	3	3	3.4
CNN	2	3	2	2	2	2	2	2	2	2	2.1
TCN	4	7	6	4	4	3	4	3	4	4	4.3

Table A.22: Standard deviation inference time ranking of each DL architecture for every dataset.

Model \ Dataset	2	4	5	6	7	8	9	10	11	12	MEAN
MLP	**1**	2	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1.1**
ERNN	6	4	6	6	3	6	6	6	6	3	5.2
LSTM	5	7	5	3	7	5	4	5	5	7	5.3
GRU	4	6	4	5	6	4	5	4	4	6	4.8
ESN	7	3	7	7	4	7	7	7	7	4	6
CNN	2	**1**	2	2	2	2	2	2	2	2	1.9
TCN	3	5	3	4	5	3	3	3	3	5	3.7
hline											

Appendix A.2.1. Model parameters

Table A.23: WAPE results of MLP models over all datasets.

Model \ Dataset	1	2	3	4	5	6	7	8	9	10	11	12
Hidden layers												
[8, 16, 32, 16, 8]	15.617	22.865	0.393	21.850	**17.191**	23.171	44.733	24.138	46.041	4.383	**1.891**	60.010
[32, 64]	15.144	23.811	0.399	21.721	17.294	23.314	46.550	**21.365**	47.944	4.391	1.940	59.933
[128, 64, 32]	15.856	23.437	0.399	21.627	17.373	23.416	45.208	21.592	47.122	4.413	1.922	59.878
[8, 16]	15.102	**21.245**	**0.367**	21.840	17.361	23.181	43.093	23.536	47.993	4.433	1.949	60.187
[32, 64, 128]	15.598	22.766	0.445	**21.114**	17.416	23.492	**30.193**	21.699	48.480	**4.373**	1.933	60.483
[32, 16, 8]	15.472	22.754	0.428	21.616	17.355	23.242	42.337	23.690	46.529	4.435	1.968	60.111
[8]	15.783	29.539	0.404	21.176	17.247	23.013	39.254	23.667	47.891	4.438	1.979	**59.710**
[64, 32]	**14.886**	24.215	0.432	21.588	17.265	23.534	37.902	21.581	48.809	4.429	1.973	60.244
[8, 16, 32]	15.248	23.187	0.369	21.682	17.429	23.530	40.787	24.006	47.910	4.404	1.953	59.998
[16, 8]	15.687	25.346	0.370	21.622	17.358	23.000	42.053	23.956	46.613	4.442	1.975	60.037
[32, 64, 128, 64, 32]	15.139	24.584	0.455	21.632	17.469	**22.930**	35.024	21.879	**45.515**	4.451	1.985	60.109
[32]	15.149	23.779	0.454	21.884	17.369	23.482	45.492	21.608	47.673	4.376	1.965	60.150

Table A.24: WAPE results of ERNN models over all datasets.

Model		Dataset	1	2	3	4	5	6	7	8	9	10	11	12
Num. Layers	**units**	**Return sequence**												
2	32	False	12.479	19.195	0.345	16.731	14.449	19.433	33.023	18.895	35.941	**3.388**	1.402	46.880
2	64	True	12.938	**18.101**	0.368	16.841	14.383	**18.997**	38.775	18.942	35.624	3.485	1.459	46.955
2	32	True	13.201	19.000	0.347	16.916	14.280	19.059	30.903	19.203	36.849	3.501	1.439	47.089
1	64	False	**12.303**	19.755	0.382	16.672	14.805	19.332	37.921	19.484	33.946	3.458	1.423	46.874
1	128	False	12.570	20.715	0.349	17.066	14.904	19.212	28.922	19.360	33.890	3.454	1.461	47.049
1	32	False	13.763	19.793	0.336	16.317	14.820	19.163	39.480	19.345	36.190	3.456	1.400	46.961
4	32	False	14.792	23.055	0.405	16.640	14.880	19.238	30.256	19.400	**33.354**	3.396	1.399	**46.739**
4	32	True	14.257	28.415	0.349	16.320	14.449	19.230	29.976	19.191	34.675	3.502	1.421	47.322
2	64	False	13.021	22.790	0.362	17.752	14.846	19.350	34.753	19.316	35.824	3.409	**1.374**	46.877
1	32	True	12.360	18.691	0.344	17.692	14.266	19.372	34.860	18.281	39.311	3.544	1.481	47.198
2	128	False	13.397	20.843	0.366	16.588	14.992	19.231	35.876	19.670	34.534	3.405	1.438	46.971
4	64	False	12.707	25.513	0.421	16.595	14.956	19.350	**27.407**	19.999	33.860	3.461	1.460	47.122
1	64	True	13.252	18.845	0.358	17.541	14.563	19.420	28.875	**17.958**	38.413	3.583	1.462	47.226
2	128	True	13.690	22.401	0.387	17.494	14.308	19.343	38.199	19.164	34.422	3.520	1.434	47.225
1	128	True	13.530	20.116	0.401	18.256	**14.178**	19.187	39.600	18.093	37.747	3.596	1.473	47.284
4	64	True	14.574	27.351	**0.298**	16.872	14.981	19.647	36.575	19.676	34.239	3.521	1.409	47.452
4	128	True	15.129	25.459	0.412	**15.621**	14.509	19.867	34.742	19.259	35.260	3.506	1.497	48.571
4	128	False	13.437	21.481	0.633	16.523	14.955	19.617	34.405	20.788	34.145	3.565	1.515	48.352

Table A.25: WAPE results of LSTM models over all datasets.

Model		Dataset	1	2	3	4	5	6	7	8	9	10	11	12
Num. Layers	**units**	**Return sequence**												
2	32	True	12.749	20.193	0.321	16.001	14.515	18.859	28.803	19.430	33.846	3.401	1.346	46.758
2	64	True	**12.475**	19.044	**0.300**	**15.282**	14.745	18.732	28.835	19.889	34.883	3.389	1.346	47.108
1	32	False	14.554	16.212	0.312	15.992	14.573	18.905	35.237	20.136	34.413	3.379	1.348	**46.477**
1	128	False	14.825	17.574	0.338	15.547	14.734	18.828	30.644	19.777	34.084	**3.359**	1.349	46.957
1	128	True	13.322	17.366	0.329	16.735	14.467	19.210	32.348	19.284	34.841	3.399	**1.314**	46.822
2	32	False	15.224	**15.352**	0.349	16.249	14.608	18.937	28.240	21.268	**31.960**	3.395	1.332	46.714
4	128	True	13.363	26.402	0.332	15.657	14.749	18.771	29.003	20.273	34.655	3.363	1.350	46.994
1	64	True	12.756	18.700	0.350	16.721	**14.281**	18.861	30.438	19.371	34.619	3.421	1.335	46.863
1	64	False	14.259	21.601	0.338	16.005	14.608	18.851	34.956	20.614	32.946	3.368	1.344	46.832
2	128	True	13.009	18.044	0.360	16.276	14.958	18.705	29.024	19.926	35.219	3.394	1.340	46.858
4	32	True	13.672	28.026	0.372	16.390	14.518	18.751	**24.333**	19.129	34.711	3.414	1.323	47.067
2	64	False	14.150	18.131	0.365	15.884	14.836	18.846	26.617	20.244	34.428	3.412	1.354	46.856
4	64	True	13.503	39.718	0.349	16.043	14.613	**18.589**	26.534	20.121	34.821	3.374	1.354	47.167
1	32	True	13.372	18.161	0.359	16.738	14.347	18.633	35.946	**19.081**	35.487	3.407	1.378	46.608
4	32	False	14.747	22.489	0.337	15.911	14.601	18.988	30.868	20.573	33.885	3.370	1.364	47.020
4	128	False	15.479	16.399	0.351	15.980	14.746	18.866	27.338	20.842	32.929	3.398	1.355	47.155
2	128	False	14.549	19.500	0.323	15.780	15.056	19.015	30.395	20.245	34.012	3.397	1.362	47.154
4	64	False	14.419	22.234	0.346	16.113	14.532	18.998	27.117	20.598	35.088	3.406	1.354	46.956

Table A.26: WAPE results of GRU models over all datasets.

Model		Dataset	1	2	3	4	5	6	7	8	9	10	11	12
N. Layers	**units**	**Return sequence**												
1	32	False	13.601	**16.772**	**0.314**	15.763	14.780	18.987	32.783	20.205	33.813	3.383	**1.322**	46.771
1	128	False	14.135	18.998	0.331	15.519	14.815	18.968	29.654	19.497	34.079	**3.363**	1.331	47.181
1	64	False	13.927	19.891	0.358	16.366	14.816	18.698	**25.054**	19.204	**33.306**	3.379	1.344	46.920
2	32	False	14.383	17.765	0.336	15.444	14.840	19.027	30.193	19.908	33.549	3.372	1.335	**46.682**
1	128	True	11.964	19.601	0.342	16.338	14.459	19.217	26.320	19.782	33.805	3.398	1.368	46.966
2	64	True	12.348	18.039	0.319	16.573	**14.298**	**18.682**	32.766	19.971	34.162	3.399	1.353	47.196
2	32	True	12.956	20.258	0.327	16.353	14.749	18.862	29.615	19.445	34.988	3.384	1.341	47.019
2	64	False	13.120	17.607	0.366	15.239	14.725	19.046	34.538	19.345	34.587	3.370	1.357	47.004
4	32	False	14.852	17.695	0.362	15.915	14.827	19.329	25.931	20.065	33.759	3.367	1.352	46.991
1	32	True	12.952	16.885	0.350	16.815	14.517	18.806	34.483	18.882	35.086	3.424	1.350	46.839
1	64	True	12.211	19.446	0.371	16.752	14.475	19.145	33.601	18.443	34.460	3.409	1.330	46.876
4	32	True	12.678	22.431	0.347	**15.182**	15.159	19.025	33.789	19.861	34.291	3.384	1.363	47.073
2	128	True	12.823	18.473	0.370	16.975	14.802	18.995	31.367	19.642	35.016	3.403	1.343	47.267
4	128	False	13.703	16.952	0.348	16.424	15.023	18.819	28.578	20.374	34.059	3.432	1.351	48.487
4	64	False	14.146	19.788	0.342	16.447	14.928	19.055	29.259	20.139	34.878	3.390	1.328	47.382

Table A.27: WAPE results of ESN models over all datasets.

Model		Dataset	1	2	3	4	5	6	7	8	9	10	11	12
N. Layers	**units**	**Return sequence**												
2	64	True	12.754	17.978	0.322	17.876	14.588	19.857	27.478	18.283	39.307	3.655	1.549	47.401
4	64	True	13.190	21.162	**0.283**	17.901	14.504	**19.626**	38.134	18.759	40.270	3.602	1.530	**47.149**
2	32	True	13.229	21.329	0.373	**17.184**	14.440	19.769	30.107	18.615	40.761	3.619	1.513	47.168
1	32	True	13.428	20.710	0.396	18.014	14.465	19.785	36.957	**18.232**	40.106	3.654	1.517	47.553
4	128	True	13.312	20.452	0.397	17.503	14.528	20.065	39.572	18.705	39.627	3.615	**1.459**	47.577
1	64	True	**12.552**	20.791	0.398	18.339	14.553	19.730	36.570	18.614	39.056	3.671	1.538	47.983
1	128	True	12.895	18.321	0.354	17.451	14.516	19.726	38.472	18.483	40.020	3.677	1.655	48.565
4	32	True	13.278	22.070	0.385	17.447	14.583	19.834	42.169	18.974	39.805	**3.590**	1.568	47.149
2	128	True	12.911	19.517	0.414	18.058	**14.366**	20.061	32.754	18.634	40.411	3.684	1.540	47.807
4	32	False	16.470	17.694	0.346	19.636	15.963	22.779	27.125	31.932	42.971	3.606	1.552	48.503
2	32	False	17.234	**17.227**	0.321	20.233	16.077	22.633	32.945	32.752	42.767	3.619	1.532	48.974
4	64	False	16.774	17.589	0.288	20.242	15.992	22.483	33.997	33.641	42.986	3.622	1.542	48.999
4	128	False	16.554	17.884	0.353	20.987	16.024	23.513	38.449	34.067	**38.488**	3.645	1.549	49.267
1	32	False	17.097	18.104	0.341	20.921	16.124	22.470	28.290	34.427	40.900	3.652	1.566	49.558
2	64	False	17.500	17.506	0.363	20.375	15.998	23.057	28.523	34.773	41.054	3.665	1.570	49.286
1	64	False	17.342	18.673	0.307	21.397	15.961	23.878	31.114	35.010	44.345	3.675	1.614	50.173
2	128	False	17.091	18.585	0.323	21.204	16.063	24.624	29.834	35.150	43.028	3.700	1.578	49.864
1	128	False	18.094	19.229	0.361	20.690	16.312	24.797	**25.490**	35.716	42.894	3.771	1.574	50.775

Table A.28: WAPE results of CNN models over all datasets.

Model		Dataset	1	2	3	4	5	6	7	8	9	10	11	12
N. Layers	**N. Filters**	**Pool factor**												
3	16	0	13.612	18.738	0.332	16.526	14.413	18.912	32.889	19.274	35.776	3.400	1.374	47.225
3	64	0	12.705	17.899	0.341	16.432	14.463	19.672	**29.350**	**18.497**	34.608	3.418	1.350	47.492
3	64	2	13.389	19.286	0.349	**15.612**	15.094	**18.852**	31.004	20.568	35.488	**3.337**	**1.333**	47.143
2	16	0	**12.479**	20.750	0.328	16.554	14.793	19.009	34.463	19.123	37.494	3.413	1.396	46.919
3	16	2	15.090	20.530	0.328	16.666	14.638	18.944	30.241	20.297	36.762	3.428	1.347	**46.914**
3	32	2	13.896	23.685	0.335	16.006	14.686	19.126	33.033	19.572	35.907	3.401	1.353	46.928
3	32	0	13.609	22.489	0.335	16.526	14.443	19.039	33.797	19.738	**34.406**	3.382	1.376	47.663
2	64	0	14.464	19.527	0.308	16.556	14.800	18.995	35.258	20.552	36.516	3.415	1.350	47.016
2	32	2	14.295	21.605	0.331	16.611	14.852	18.979	34.086	20.267	36.917	3.447	1.339	46.971
2	32	0	14.221	**17.143**	0.391	17.084	14.931	19.070	29.995	19.364	35.882	3.403	1.398	47.114
1	32	0	13.421	19.545	0.354	16.282	14.390	19.026	43.898	19.060	39.489	3.444	1.461	46.998
2	64	0	13.319	19.920	0.347	17.088	14.846	19.413	31.387	19.379	36.292	3.411	1.371	47.167
1	64	0	13.263	21.848	0.340	16.905	**14.256**	19.056	42.005	18.966	38.747	3.416	1.464	47.085
2	16	2	15.207	20.450	0.338	16.850	14.658	18.952	36.224	20.408	37.472	3.431	1.376	47.056
1	16	2	13.862	19.897	0.357	17.266	14.470	19.596	35.778	19.343	39.648	3.410	1.436	47.071
1	32	2	14.478	19.354	0.338	17.387	14.665	19.005	41.701	19.390	39.754	3.404	1.461	47.220
1	64	2	14.430	21.794	**0.303**	16.989	14.862	19.289	42.769	19.988	39.756	3.399	1.418	47.021
1	16	0	13.232	23.359	0.366	17.130	14.793	19.124	38.064	18.758	38.705	3.430	1.468	47.277

Table A.29: WAPE results of TCN models over all datasets.

Model					Dataset 1	2	3	4	5	6	7	8	9	10	11	12
N. Layers	**N. Filters**	**Dilations**	**Kernel**	**Return sequence**												
1	64	[1, 2, 4, 8]	6	False	12.891	23.691	0.326	16.158	14.896	18.751	31.142	19.426	34.052	3.419	1.352	46.696
1	32	[1, 2, 4, 8]	6	False	13.603	**19.091**	0.351	16.153	14.942	18.920	27.557	19.232	33.984	3.467	**1.320**	46.775
3	32	[1, 2, 4, 8, 16]	6	False	13.602	20.427	0.324	16.005	14.825	18.816	28.044	19.802	34.397	3.470	1.349	**46.556**
1	32	[1, 2, 4, 8, 16]	6	False	13.424	21.641	0.383	16.285	14.716	19.064	25.591	19.160	35.122	**3.398**	1.356	46.735
3	64	[1, 2, 4, 8, 16]	6	False	**12.866**	28.147	0.325	16.042	14.669	19.039	28.819	19.799	34.599	3.430	1.334	47.172
1	32	[1, 2, 4, 8]	3	False	13.408	23.473	0.345	16.548	14.766	19.011	23.958	18.913	35.387	3.432	1.390	46.628
1	32	[1, 2, 4, 8, 16]	3	False	14.092	24.905	0.356	16.045	**14.575**	18.917	31.662	19.185	36.028	3.412	1.342	46.685
1	32	[1, 2, 4, 8, 16]	3	True	12.987	23.922	0.334	**15.587**	14.916	19.086	31.046	19.615	35.546	3.418	1.338	46.838
3	32	[1, 2, 4, 8, 16]	6	True	13.862	22.773	0.358	16.103	14.807	18.845	29.393	19.489	34.683	3.462	1.336	47.038
1	64	[1, 2, 4, 8, 16]	6	True	13.310	23.787	0.391	16.691	14.700	18.920	24.043	**18.893**	34.901	3.435	1.371	46.788
1	32	[1, 2, 4, 8]	3	True	14.206	23.520	0.352	16.049	14.717	19.163	28.405	19.499	35.807	3.425	1.339	46.783
1	64	[1, 2, 4, 8, 16]	6	False	13.238	23.703	0.313	16.097	15.012	18.592	32.668	19.962	35.003	3.430	1.328	46.895
1	64	[1, 2, 4, 8]	6	True	13.194	24.242	0.400	15.789	14.999	18.598	30.171	19.294	34.853	3.440	1.353	46.760
1	64	[1, 2, 4, 8, 16]	3	False	13.714	26.746	0.346	16.361	15.117	18.729	26.897	19.292	34.424	3.452	1.358	46.880
1	64	[1, 2, 4, 8]	3	True	13.026	24.745	0.330	16.963	14.978	19.001	**23.930**	19.657	34.571	3.452	1.366	46.836
1	32	[1, 2, 4, 8]	6	True	13.064	21.362	0.326	16.669	14.873	18.641	30.863	19.512	35.805	3.452	1.360	46.865
1	64	[1, 2, 4, 8, 16]	3	True	13.476	23.267	**0.303**	15.759	15.034	18.903	30.936	19.526	34.933	3.444	1.360	46.913
3	32	[1, 2, 4, 8]	6	True	14.097	24.705	0.328	17.052	14.739	19.134	30.084	19.772	34.041	3.439	1.352	46.727
3	64	[1, 2, 4, 8]	6	True	13.609	27.213	0.386	16.216	15.269	18.893	27.986	19.733	33.374	3.416	1.370	46.766
1	64	[1, 2, 4, 8]	3	False	12.871	25.856	0.356	16.233	14.977	19.145	32.838	19.269	34.788	3.415	1.366	46.839
3	32	[1, 2, 4, 8]	3	False	13.729	21.823	0.377	17.272	14.777	19.234	29.492	19.457	34.829	3.421	1.359	46.716
1	32	[1, 2, 4, 8, 16]	6	True	13.518	22.480	0.387	15.709	14.841	19.008	30.025	19.413	35.043	3.471	1.360	46.816
3	32	[1, 2, 4, 8]	3	True	14.792	28.636	0.394	16.593	14.853	19.188	26.876	19.445	34.626	3.425	1.330	46.698
3	32	[1, 2, 4, 8, 16]	3	False	14.522	27.373	0.380	17.354	14.733	19.165	26.206	19.826	**32.927**	3.448	1.352	46.640
3	64	[1, 2, 4, 8]	6	False	14.046	26.343	0.376	16.557	15.003	**18.528**	33.982	19.422	34.107	3.416	1.367	47.424
3	32	[1, 2, 4, 8]	6	False	14.837	25.979	0.356	16.478	14.997	18.926	32.703	19.534	34.810	3.464	1.341	46.634
3	64	[1, 2, 4, 8, 16]	6	True	13.996	28.408	0.386	17.010	14.745	19.075	31.131	20.053	34.037	3.415	1.348	47.162
3	64	[1, 2, 4, 8]	3	True	14.346	29.732	0.397	16.486	14.832	19.142	29.958	19.676	34.637	3.448	1.342	46.641
3	32	[1, 2, 4, 8, 16]	3	True	14.339	28.222	0.347	17.445	15.202	19.588	27.090	19.953	34.197	3.434	1.342	46.771
3	64	[1, 2, 4, 8]	3	False	13.951	32.086	0.372	17.088	14.989	19.175	30.682	19.624	34.645	3.401	1.348	47.191
3	64	[1, 2, 4, 8, 16]	3	True	13.856	26.468	0.387	17.110	14.616	19.359	29.043	20.910	34.622	3.440	1.355	47.175
3	64	[1, 2, 4, 8, 16]	3	False	13.897	31.353	0.306	17.857	15.069	19.266	27.171	20.058	34.416	3.423	1.359	47.464