

Table 1: Performance comparison with 14 baselines on 9 datasets (8 of which are public). Bold fonts denote the best performance, and underline denotes the second best.

Datasets	Steps	Metrics	MTGNN	LogTrans	Informer	Autoformer	Pyraformer	Fedformer	NSTrans	ETSformer	MICN	DLinear	LightTS	CrossFormer	NJODE	TimesNet	LAMEE
	Conference		KDD	NeurIPS	AAAI	NeurIPS	ICLR	ICML	NeurIPS	NeurIPS	ICLR	AAAI	Arxiv	ICLR	ICLR	ICLR	-
	Year		2020	2019	2021	2021	2022	2022	2022	2022	2023	2023	2022	2023	2021	2023	-
ILI	24	MSE	4.265	4.480	5.764	3.483	7.394	3.228	<u>2.294</u>	2.527	2.684	2.398	8.313	3.041	7.709	2.317	1.540
		MAE	1.387	1.444	1.677	1.287	2.012	1.260	0.945	1.020	1.112	1.040	2.144	1.186	2.081	<u>0.934</u>	0.737
	36	MSE	4.777	4.799	4.755	3.103	7.551	2.679	<u>1.825</u>	2.615	2.507	2.646	6.631	3.406	7.293	1.972	1.512
		MAE	1.496	1.467	1.467	1.148	2.031	1.080	1.007	1.007	1.013	1.088	1.902	1.232	2.403	0.920	0.738
	48	MSE	5.333	4.800	4.763	2.669	7.662	2.622	<u>2.010</u>	2.359	2.423	2.614	7.299	3.459	7.890	2.238	1.581
		MAE	1.592	1.468	1.469	1.085	2.057	1.078	<u>0.900</u>	0.972	1.012	1.086	1.982	1.221	2.799	0.940	0.782
	60	MSE	5.070	5.278	5.264	2.770	7.931	2.857	2.178	2.487	2.653	2.804	8.972	3.640	8.972	<u>2.027</u>	2.014
		MAE	1.552	1.560	1.564	1.125	2.100	1.157	0.963	1.016	1.085	1.146	1.985	1.305	3.001	<u>0.928</u>	0.886
Stock	12	MSE	3.772	4.982	5.362	3.911	5.264	3.852	4.041	4.453	4.133	3.792	5.508	4.193	<u>3.282</u>	3.990	2.792
		MAE	1.309	1.477	1.244	1.153	1.271	1.119	1.107	1.246	1.096	0.989	1.621	1.437	<u>0.880</u>	1.030	0.818
	24	MSE	4.892	4.017	5.859	4.196	5.486	4.123	4.457	4.470	4.241	<u>3.888</u>	5.103	4.021	3.896	4.512	3.423
		MAE	1.330	1.194	1.307	1.178	1.484	1.142	1.131	1.393	1.090	<u>1.021</u>	1.467	1.220	1.003	1.092	0.914
	48	MSE	4.613	4.836	5.965	4.620	5.931	4.553	<u>4.139</u>	4.933	4.466	4.513	5.321	4.480	4.896	4.335	4.074
		MAE	1.588	1.348	1.308	1.228	1.520	1.191	1.306	1.517	1.293	1.322	1.461	1.291	1.773	<u>1.096</u>	1.020
	96	MSE	5.541	5.301	5.986	5.345	5.998	5.335	5.505	5.784	5.167	<u>5.013</u>	5.593	5.463	5.093	5.331	4.895
		MAE	1.507	1.352	1.310	1.300	1.573	1.295	1.241	1.513	<u>1.181</u>	1.231	1.668	1.420	1.612	1.253	1.139
ELC	96	MSE	0.272	0.258	0.274	0.201	0.386	0.193	0.169	0.187	<u>0.165</u>	0.197	0.207	0.171	0.288	0.168	0.158
		MAE	0.361	0.357	0.368	0.317	0.449	0.308	0.273	0.304	0.276	0.282	0.307	0.171	0.390	<u>0.272</u>	0.264
	192	MSE	0.297	0.266	0.296	0.222	0.378	0.201	0.182	0.199	0.187	0.196	0.213	0.196	0.392	0.184	0.176
		MAE	0.380	0.368	0.386	0.334	0.443	0.315	0.286	0.315	0.296	<u>0.285</u>	0.316	0.287	0.413	0.289	0.277
	336	MSE	0.327	0.266	0.296	0.222	0.378	0.201	0.182	0.199	<u>0.186</u>	0.196	0.213	0.205	0.459	0.198	0.192
		MAE	0.383	0.380	0.394	0.338	0.443	0.329	0.304	0.329	<u>0.298</u>	0.301	0.333	0.317	0.514	0.300	0.290
	720	MSE	0.420	0.283	0.373	0.254	0.376	0.246	0.222	0.233	0.207	0.245	0.265	0.241	0.572	0.220	0.237
		MAE	0.410	0.376	0.439	0.361	0.445	0.355	0.321	0.345	0.316	0.333	0.360	0.353	0.690	0.320	<u>0.318</u>
Traffic	96	MSE	0.651	0.684	0.719	0.613	0.867	0.587	0.612	0.607	0.602	0.650	0.615	0.525	0.790	0.593	0.567
		MAE	0.413	0.384	0.391	0.388	0.468	0.366	0.338	0.392	0.373	0.396	0.391	0.296	0.455	0.321	<u>0.328</u>
	192	MSE	0.682	0.685	0.696	0.616	0.869	0.604	0.613	0.621	0.612	0.598	0.601	0.529	0.884	0.617	0.562
		MAE	0.404	0.390	0.379	0.382	0.467	0.373	0.340	0.399	0.402	0.370	0.382	0.297	0.515	0.336	<u>0.317</u>
	336	MSE	0.700	0.734	0.777	0.622	0.881	0.621	0.618	0.622	0.637	0.605	0.613	0.530	0.937	0.629	0.597
		MAE	0.416	0.408	0.420	0.337	0.469	0.383	<u>0.328</u>	0.396	0.439	0.373	0.386	0.300	0.550	0.336	0.330
	720	MSE	0.741	0.717	0.864	0.660	0.896	0.626	0.653	0.632	0.639	0.645	0.658	0.573	0.994	0.640	0.631
		MAE	0.435	0.396	0.472	0.408	0.473	0.382	0.355	0.396	0.413	0.394	0.407	0.313	0.623	0.350	<u>0.348</u>
Weather	96	MSE	0.408	0.458	0.300	0.266	0.622	0.217	<u>0.173</u>	0.197	0.192	0.196	0.182	0.248	0.244	0.172	0.156
		MAE	0.441	0.490	0.384	0.336	0.556	0.296	0.223	0.281	0.250	0.255	0.242	0.318	0.292	<u>0.220</u>	0.204
	192	MSE	0.452	0.658	0.598	0.307	0.739	0.276	0.245	0.237	0.240	0.237	0.227	0.251	0.288	0.219	0.210
		MAE	0.513	0.589	0.544	0.367	0.624	0.336	0.285	0.312	0.300	0.296	0.287	0.369	0.343	<u>0.261</u>	0.252
	336	MSE	0.668	0.797	0.578	0.359	1.004	0.339	0.321	0.298	0.281	0.283	0.282	0.335	0.317	0.280	0.258
		MAE	0.805	0.652	0.523	0.395	0.753	0.380	0.338	0.353	0.330	0.335	0.334	0.415	0.361	<u>0.306</u>	0.291
	720	MSE	0.940	0.869	1.059	0.419	1.420	0.403	0.414	0.352	0.350	<u>0.345</u>	0.352	0.420	0.404	0.365	0.309
		MAE	1.039	0.675	0.741	0.428	0.934	0.428	0.410	0.388	0.387	0.381	0.386	0.499	0.445	<u>0.359</u>	0.340
ETTm1	96	MSE	0.594	0.600	0.672	0.505	0.543	0.379	0.386	0.375	0.324	0.345	0.374	0.361	0.452	0.338	<u>0.329</u>
		MAE	0.550	0.546	0.571	0.475	0.510	0.419	0.398	0.398	0.374	<u>0.372</u>	0.400	0.401	0.491	0.375	0.363
	192	MSE	0.782	0.837	0.795	0.553	0.557	0.426	0.459	0.408	0.366	0.380	0.400	0.403	0.501	0.374	0.359
		MAE	0.711	0.700	0.669	0.496	0.537	0.441	0.444	0.410	<u>0.402</u>	0.389	0.407	0.440	0.556	<u>0.387</u>	0.381
	336	MSE	0.937	1.124	1.212	0.621	0.754	0.445	0.495	0.435	0.385	0.413	0.438	0.543	0.580	0.410	0.393
		MAE	0.955	0.832	0.871	0.537	0.655	0.459	0.464	0.428	<u>0.413</u>	0.413	0.438	0.528	0.603	<u>0.411</u>	0.409
	720	MSE	1.050	1.153	1.166	0.671	0.908	0.543	0.585	0.499	0.521	<u>0.474</u>	0.527	0.600	0.641	0.478	0.470
		MAE	0.920	0.820	0.823	0.561	0.724	0.490	0.516	0.462	0.506	0.453	0.502	0.581	0.662	<u>0.450</u>	0.443
ETTm2	96	MSE	0.688	0.768	0.365	0.255	0.435	0.203	0.192	0.189	0.190	0.193	0.209	0.273	0.310	<u>0.187</u>	0.177
		MAE	0.602	0.642	0.453	0.339	0.507	0.287	0.274	0.280	0.285	0.292	0.308	0.356	0.366	<u>0.267</u>	0.255
	192	MSE	0.851	0.989	0.533	0.281	0.730	0.269	0.280	0.253	0.284	0.284	0.311	0.426	0.485	<u>0.249</u>	0.241
		MAE	0.732	0.757	0.563	0.340	0.673	0.328	0.339	0.319	0.356	0.362	0.382	0.487	0.543	<u>0.309</u>	0.296
	336	MSE	0.941	1.334	1.363	0.339	1.201	0.325	0.334	0.314	0.394	0.369	0.442	0.516	0.508	<u>0.321</u>	0.297
		MAE	0.796	0.872	0.887	0.372	0.845	0.366	0.361	0.357	0.430	0.427	0.466	0.631	0.699	<u>0.351</u>	0.330
	720	MSE	1.401	3.048	3.379	0.433	3.625	0.421	0.417	0.414	0.537	0.554	0.675	0.592	1.931	<u>0.408</u>	0.397
		MAE	1.079	1.328	1.338	0.432	1.451	0.415	0.413	0.413	0.509	0.522	0.587	0.673	1.884	<u>0.403</u>	0.390
ETTth1	96	MSE	0.852	0.878	0.865	0.449	0.664	0.376	0.513	0.494	0.383	0.386	0.424	0.420	0.553	0.384	0.390
		MAE	0.733	0.740	0.713	0.459	0.612	0.419	0.491	0.479	0.412	<u>0.400</u>	0.432	0.439	0.501	0.402	0.397
	192	MSE	0.986	1.037	1.008	0.500	0.790	0.420	0.534	0.538	0.445	0.437	0.475	0.541	0.608	0.436	0.420
		MAE	0.860	0.824	0.792	0.482	0.681	0.448	0.504	0.504	0.439	0.432	0.462	0.520	0.640	<u>0.429</u>	0.411
	336	MSE	1.137	1.238	1.107	0.521	0.891	0.459	0.588	0.574	0.521	<u>0.481</u>	0.518	0.723	0.779	0.491	0.475
		MAE	0.996	0.932	0.809	0.496	0.738	0.465	0.535	0.521	0.490	<u>0.459</u>	0.488	0.649	0.781	0.469	0.