

```
In [1]: %config InlineBackend.figure_format = 'retina'
import pandas as pd
import os
```

Benchmarking the System Performance

```
In [ ]: run_id = 'BP_2Predictors_live_training_Horizon30'

In [ ]: os.mkdir(run_id)

In [ ]: dir_ = './' + run_id + '/'

This Jupyter notebook serves to benchmark the performance of the prototype system.
```

Loading and importing the system

```
In [2]: %run ../tools/data_loader.py
%run ../system/activate.py
```

Loading and importing financial data to forecast and to benchmark the system on

Prophet and Neural prophet training set-up

```
In [ ]: #training_data = DataLoader('BP', '2018-02-01', '2018-02-01')
#training_data = training_data.get_adjclose()
```

Normal set-up

```
In [3]: predict = DataLoader('BP', '2018-02-02', '2018-05-01')
predict = predict.get_adjclose()

In [4]: predict_req, real = data_prep(predict, 20, 30) # dividing data into predictor input and real data
```

Individual predictor forecasts

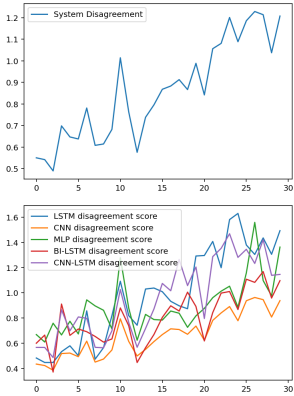
```
In [5]: individual_predictors_forecasts = individual_predictors_pretrained_BP_30_5(predict_req, 30)

WARNING:tensorflow:5 out of the last 5 calls to <function Model.make_predict_function.<locals>.predict_function at 0x000025818497820> triggered tf.function retracing. Tracing is expensive and the excessive number of tracings could be due to (1) creating @tf.function repeatedly in a loop, (2) passing tensors with different shapes, (3) passing Python objects instead of tensors. For (1), please define your @tf.function outside of the loop. For (2), @tf.function has experimental_relax_shapes=True option that relaxes argument shapes that can avoid unnecessary retracing. For (3), please refer to https://www.tensorflow.org/tutorials/customization/performance#python_or_tensor_args and https://www.tensorflow.org/api_docs/python/tf/function for more details.

In [ ]: #individual_predictors_forecasts = individual_predictors_template2(training_data, 30)
```

System disagreement between individual predictor forecasts

```
In [6]: system_disagreement(individual_predictors_forecasts)
```



Building consensus forecast values

```
In [7]: consensus_forecasts = consensus(individual_predictors_forecasts, real)

In [8]: all_forecasts = combined_frame(individual_predictors_forecasts, consensus_forecasts, real)

In [9]: summary = all_stats_frame(all_forecasts, individual_predictors_forecasts) # combining individual predictor forecasts, consensus forecasts and disagreement scores
summary
```

Out[9]:	Average	NoMemory	Memory	Focus	Anchor	Correcting	Correcting Memory	Real Value	LSTM	CNN	MLP	BI-LSTM	CNN-LSTM	System Disagreement	LSTM disagreement score	CNN disagreement score	MLP disagreement score	BI-LSTM disagreement score	CNN-LSTM disagreement score
Date																			
2018-03-05	31.923475	31.923475	31.923475	31.923475	32.386080	31.923475	31.923475	31.924553	31.519371	31.760506	32.591705	31.323856	32.421936	0.550122	0.482310	0.434083	0.668230	0.599619	0.566369
2018-03-06	31.938124	31.924954	31.931539	31.757072	31.936986	31.939325	31.938725	32.242489	31.636442	31.757072	32.547344	31.274017	32.475746	0.541753	0.446652	0.422526	0.609220	0.664107	0.566261
2018-03-07	31.866467	31.904802	31.870079	32.170414	31.941042	32.171566	31.968918	32.046844	31.419725	31.521929	32.624828	31.595438	32.170414	0.489391	0.446741	0.385419	0.758361	0.370718	0.485713
2018-03-08	31.893625	31.924047	31.917750	32.758286	32.021879	32.073829	32.014092	32.169121	31.613255	31.687441	32.426117	30.983028	32.758286	0.698140	0.532461	0.517624	0.665359	0.910597	0.864660
2018-03-09	31.704929	31.754561	31.728842	32.478863	31.707402	31.980077	31.855592	32.332169	31.181055	31.469465	32.478863	31.042992	32.352268	0.646873	0.579099	0.521417	0.773934	0.661937	0.697977
2018-03-12	31.807995	31.916507	31.847105	32.616154	31.940875	32.437798	32.039121	32.487061	31.448248	31.488953	32.391087	31.095535	32.616154	0.637452	0.500832	0.492691	0.673118	0.712460	0.808158
2018-03-13	31.519629	31.637523	31.572197	32.463337	31.706802	32.191348	31.810648	32.242489	30.663185	31.312935	32.463337	30.939068	32.219620	0.780937	0.856444	0.616141	0.943708	0.690914	0.797478
2018-03-14	31.579863	31.667592	31.626876	31.927399	31.676795	32.308544	31.927919	31.688131	31.227610	31.342339	32.475788	30.926178	31.927399	0.607841	0.472826	0.449880	0.895926	0.653685	0.566892
2018-03-15	31.450956	31.448347	31.493605	31.815842	31.464976	31.558912	31.771015	31.818569	30.915678	31.368473	32.312157	30.842632	31.815842	0.614274	0.564497	0.473938	0.861200	0.608324	0.563411
2018-03-16	31.456498	31.537523	31.509489	32.144428	31.513220	31.823631	31.780585	32.185429	30.637493	31.384233	32.169632	30.946705	32.144428	0.681920	0.819005	0.545972	0.713134	0.633478	0.698011
2018-03-19	31.518098	31.709773	31.602633	32.796539	31.854923	32.242800	31.874897	31.590307	30.426447	31.212103	32.796539	30.779646	32.375755	1.013807	1.091651	0.793240	1.278441	0.879732	1.025971
2018-03-20	31.289978	31.286056	31.351660	31.226955	31.180257	31.368196	31.624308	31.826719	30.470890	31.226955	32.168591	30.605513	31.977943	0.762853	0.819088	0.614026	0.878612	0.738315	0.764224
2018-03-21	31.341291	31.409889	31.379659	31.871717	31.360930	31.884122	31.695761	32.715321	30.598822	31.005627	31.964592	31.265696	31.871717	0.575621	0.742469	0.498386	0.623301	0.446372	0.567577
2018-03-22	31.290078	31.352064	31.345881	32.118462	31.633888	32.659416	31.713879	31.818569	30.260265	31.102762	32.118462	31.036943	31.931955	0.737825	1.029812	0.550642	0.828384	0.563805	0.716480
2018-03-23	31.220284	31.345045	31.289614	32.091583	31.338356	31.746853	31.649147	31.891941	30.182570	31.077864	31.951736	30.797665	32.091583	0.795536	1.037714	0.612617	0.787392	0.668657	0.871300
2018-03-26	30.986240	31.127776	31.068869	31.575846	31.173715	31.651936	31.426230	32.951744	29.977736	31.000074	31.575846	30.317245	32.060299	0.867796	1.008504	0.668233	0.783387	0.804799	1.074059

	Average	NoMemory	Memory	Focus	Anchor	Correcting	Correcting Memory	Real Value	LSTM	CNN	MLP	BI-LSTM	CNN- LSTM	System Disagreement	LSTM disagreement score	CNN disagreement score	MLP disagreement score	BI-LSTM disagreement score	CNN-LSTM disagreement score
Date																			
2018-03-27	30.991722	31.069494	31.077738	32.007824	31.326844	32.956946	31.520689	32.584892	30.059404	31.033098	31.739635	30.118649	32.007824	0.882852	0.932318	0.713881	0.855189	0.896771	1.016102
2018-03-28	31.098504	31.200603	31.186990	32.363129	31.464359	32.697094	31.688726	32.283257	30.201876	31.004501	31.651840	30.271175	32.363129	0.912507	0.896629	0.708384	0.837851	0.855049	1.264624
2018-03-29	30.732746	30.854468	30.818474	31.789845	30.917406	31.905036	31.348037	33.049572	29.947014	30.961243	31.237888	29.727739	31.789845	0.866414	0.873442	0.670596	0.725925	1.005006	1.057099
2018-04-02	30.813956	30.883732	30.907776	32.018658	31.320879	33.135751	31.514494	32.535973	29.522015	30.967358	31.372194	30.189558	32.018658	0.988148	1.291942	0.735856	0.816823	0.891416	1.204701
2018-04-03	30.789407	30.880111	30.863710	31.531679	31.019582	32.514893	31.540262	33.188171	29.493404	30.615656	31.665564	30.640734	31.531679	0.841655	1.296003	0.622652	0.876156	0.617636	0.795826
2018-04-04	30.748893	30.822428	30.846589	31.492891	31.326696	33.141128	31.569900	33.449039	29.341408	30.591784	31.492891	30.282539	32.035843	1.055876	1.407485	0.780957	0.961179	0.842806	1.286950
2018-04-05	30.760904	30.842903	30.863953	32.113972	31.259546	33.462260	31.663106	34.174595	29.561840	30.684181	31.546734	29.897791	32.113972	1.080513	1.199063	0.840215	1.012725	0.997493	1.353068
2018-04-06	30.582997	30.656782	30.692662	32.051628	31.297157	33.973812	31.582306	34.044163	29.001944	30.550428	31.357599	29.953386	32.051628	1.200573	1.581054	0.890779	1.052214	1.010188	1.468631
2018-04-09	30.504671	30.579248	30.601103	31.785673	31.100878	33.960328	31.602153	33.962635	28.874775	30.590141	31.126215	30.146553	31.785673	1.088233	1.629897	0.778112	0.885327	0.866830	1.281002
2018-04-10	30.522241	30.593659	30.631038	31.867661	31.147720	33.981554	31.708107	34.875694	29.143154	30.449364	31.555641	29.595385	31.867661	1.185483	1.379087	0.936953	1.158208	1.107748	1.345420
2018-04-11	30.623361	30.688446	30.727688	31.638863	31.464581	34.991236	31.930497	35.103962	29.319021	30.288836	32.182137	29.688425	31.638863	1.228267	1.304340	0.962711	1.558775	1.082698	1.232811
2018-04-12	30.384334	30.446524	30.492463	31.265465	31.169320	34.833575	31.793960	35.103962	28.948793	30.507416	31.265465	29.394670	31.805326	1.213418	1.435541	0.945465	1.097075	1.168015	1.420992
2018-04-13	30.394420	30.447162	30.484766	31.532990	31.126277	35.122263	31.922249	35.022434	29.088953	30.421045	31.261431	29.667683	31.532990	1.037091	1.305467	0.807557	0.975634	0.958229	1.138569
2018-04-16	30.418459	30.471119	30.517966	31.419561	31.324423	35.045613	32.047520	34.826790	28.925261	30.379860	31.781141	29.586473	31.419561	1.207176	1.493199	0.937794	1.362682	1.096471	1.145734

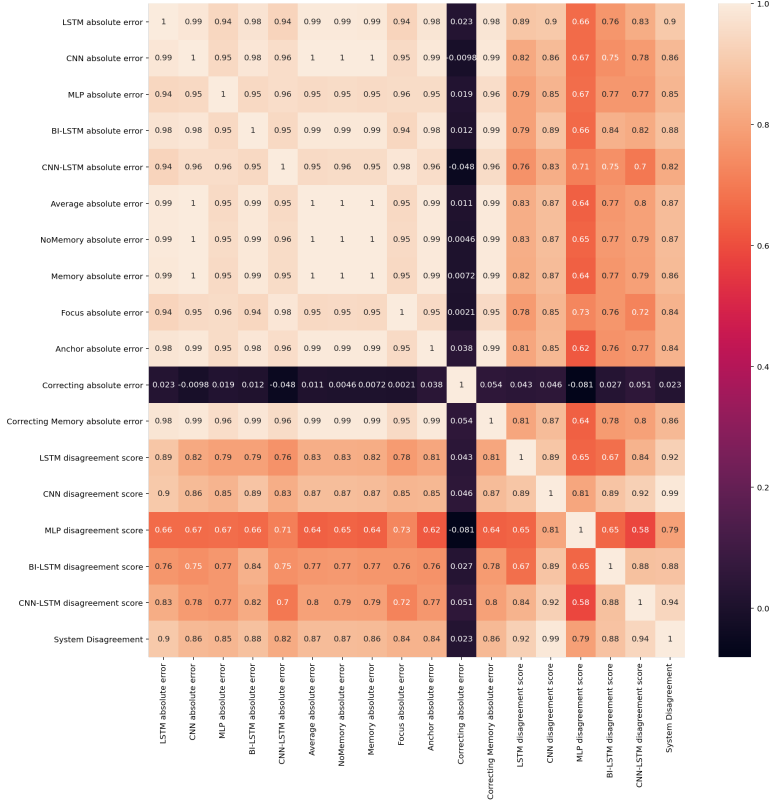
```
In [ ]: summary.to_csv(dir_ + run_id + '_Forecast_Summary.csv')
```

Absolute error analysis of individual predictors and consensus forecasts

```
In [10]: prediction_error = absolute_error_analytics(individual_predictors_forecasts, consensus_forecasts, real)
prediction_error
```

	LSTM absolute error	CNN absolute error	MLP absolute error	Bi-LSTM absolute error	CNN-LSTM absolute error	Average absolute error	NoMemory absolute error	Memory absolute error	Focus absolute error	Anchor absolute error	Correcting absolute error	Correcting Memory absolute error	LSTM disagreement score	CNN disagreement score	MLP disagreement score	Bi-LSTM disagreement score	CNN-LSTM disagreement score	System Disagreement
Date																		
2018-03-05	0.405182	0.164047	0.667152	0.600697	0.497383	0.001078	0.001078	0.001078	0.001078	0.461527	0.001078	0.001078	0.482310	0.434083	0.668230	0.599619	0.566369	0.550122
2018-03-06	0.606047	0.485416	0.304855	0.968472	0.233257	0.304364	0.317535	0.310950	0.485416	0.305503	0.303164	0.303764	0.446652	0.422526	0.609220	0.664107	0.566261	0.541753
2018-03-07	0.627119	0.524916	0.577984	0.451406	0.123569	0.180378	0.142042	0.176766	0.123569	0.105802	0.124722	0.077927	0.446741	0.385419	0.758361	0.370718	0.485713	0.489391
2018-03-08	0.555866	0.481680	0.256996	1.186092	0.589165	0.275496	0.245074	0.251370	0.589165	0.147242	0.095292	0.155028	0.532461	0.517624	0.665359	0.910597	0.864660	0.698140
2018-03-09	1.151114	0.862703	0.146694	1.289177	0.020100	0.627240	0.577607	0.603327	0.146694	0.624767	0.352091	0.476576	0.579099	0.521417	0.773934	0.661937	0.697977	0.646873
2018-03-12	1.038813	0.998108	0.095974	1.391525	0.129093	0.679065	0.570553	0.639956	0.129093	0.546186	0.049263	0.447939	0.500832	0.492691	0.673118	0.712460	0.808158	0.637452
2018-03-13	1.579304	0.929554	0.220848	1.303421	0.022869	0.722860	0.604965	0.670292	0.220848	0.535686	0.051141	0.431840	0.856444	0.616141	0.943708	0.690914	0.797478	0.780937
2018-03-14	0.460522	0.345793	0.787657	0.761953	0.239267	0.108269	0.020539	0.061255	0.239267	0.011336	0.620413	0.239788	0.472826	0.449880	0.895926	0.653685	0.566892	0.607841
2018-03-15	0.902891	0.450096	0.493587	0.975937	0.002728	0.367613	0.370223	0.324964	0.002728	0.353593	0.259657	0.047554	0.564497	0.473938	0.861200	0.608324	0.563411	0.614274
2018-03-16	1.547935	0.801195	0.015797	1.238724	0.041000	0.728930	0.647906	0.675940	0.041000	0.672209	0.361797	0.404843	0.819005	0.545972	0.713134	0.633478	0.698011	0.681920
2018-03-19	1.163860	0.378204	1.206232	0.810661	0.785448	0.072209	0.119465	0.012326	1.206232	0.264616	0.652493	0.284590	1.091651	0.793240	1.278441	0.879732	1.025971	1.013807
2018-03-20	1.355829	0.599764	0.341871	1.221207	0.151224	0.536741	0.540663	0.475059	0.599764	0.646462	0.458524	0.202411	0.819088	0.614026	0.878612	0.738315	0.764224	0.762853
2018-03-21	2.116499	1.709694	0.750729	1.449625	0.843603	1.374030	1.305432	1.335662	0.843603	1.354391	0.831198	1.019560	0.742469	0.498386	0.623301	0.446372	0.567577	0.575621
2018-03-22	1.558304	0.715807	0.299892	0.781626	0.113386	0.528492	0.466505	0.472689	0.299892	0.184681	0.840846	0.104691	1.029812	0.550642	0.828384	0.563805	0.716480	0.737825
2018-03-23	1.709372	0.814077	0.059795	1.094276	0.199642	0.671658	0.546896	0.602327	0.199642	0.553585	0.145088	0.242794	1.037714	0.612617	0.787392	0.668657	0.871300	0.795536
2018-03-26	2.974009	1.951670	1.375898	2.634499	0.891445	1.965504	1.823968	1.882875	1.375898	1.778029	1.299809	1.525514	1.008504	0.668233	0.783387	0.804799	1.074059	0.867796
2018-03-27	2.525488	1.551794	0.845257	2.466244	0.577068	1.593170	1.515398	1.507155	0.577068	1.258048	0.372054	1.064204	0.932318	0.713881	0.855189	0.896771	1.016102	0.882852
2018-03-28	2.081381	1.278755	0.631416	2.012081	0.079872	1.184752	1.082654	1.096266	0.079872	0.818898	0.413837	0.594531	0.896629	0.708384	0.837851	0.855049	1.264624	0.912507
2018-03-29	3.102558	2.088329	1.811684	3.321833	1.259727	2.316826	2.195104	2.231098	1.259727	2.132166	1.144536	1.701535	0.873442	0.670596	0.725925	1.005006	1.057099	0.866414
2018-04-02	3.013958	1.568615	1.163778	2.346415	0.517315	1.722016	1.652240	1.628197	0.517315	1.215094	0.599779	1.021478	1.291942	0.735856	0.816823	0.891416	1.204701	0.988148
2018-04-03	3.694767	2.572515	1.522608	2.547438	1.656492	2.398764	2.308061	2.324462	1.656492	2.168589	0.673279	1.647910	1.296003	0.622652	0.876156	0.617636	0.795826	0.841655
2018-04-04	4.107632	2.857256	1.956148	3.166500	1.413197	2.700146	2.626611	2.602451	1.956148	2.122343	0.307911	1.879139	1.407485	0.780957	0.961179	0.842806	1.286950	1.055876
2018-04-05	4.612755	3.490414	2.627861	4.276804	2.060623	3.413691	3.331692	3.310642	2.060623	2.915049	0.712335	2.511489	1.199063	0.840215	1.012725	0.997493	1.353068	1.080513
2018-04-06	5.042219	3.493734	2.686563	4.090776	1.992535	3.461166	3.387381	3.351501	1.992535	2.747006	0.070351	2.461856	1.581054	0.890779	1.052214	1.010188	1.468631	1.200573
2018-04-09	5.087860	3.372494	2.836420	3.816082	2.176962	3.457964	3.383387	3.361532	2.176962	2.861757	0.002307	2.360482	1.629897	0.778112	0.885327	0.866830	1.281002	1.088233
2018-04-10	5.732540	4.426331	3.320053	5.280310	3.008034	4.353453	4.282035	4.244656	3.008034	3.727975	0.894140	3.167587	1.379087	0.936953	1.158208	1.107748	1.345420	1.185483
2018-04-11	5.784941	4.815601	2.921825	5.415537	3.465099	4.480601	4.415516	4.376274	3.465099	3.639381	0.112726	3.173465	1.304340	0.962711	1.558775	1.082698	1.232811	1.228267
2018-04-12	6.155169	4.596546	3.838497	5.709291	3.298635	4.719628	4.657438	4.611499	3.838497	3.934642	0.270387	3.310002	1.435541	0.945465	1.097075	1.168015	1.420992	1.213418
2018-04-13	5.933481	4.601389	3.761003	5.354752	3.489445	4.628014	4.575273	4.537668	3.489445	3.896157	0.099829	3.100185	1.305467	0.807557	0.975634	0.958229	1.138569	1.037091
2018-04-16	5.901529	4.446930	3.045649	5.240316	3.407228	4.408331	4.355671	4.308824	3.407228	3.502367	0.218823	2.779270	1.493199	0.933794	1.362682	1.096471	1.145734	1.207176

	LSTM absolute error	CNN absolute error	MLP absolute error	BI-LSTM absolute error	CNN-LSTM absolute error	Average absolute error	NoMemory absolute error	Memory absolute error	Focus absolute error	Anchor absolute error	Correcting absolute error	Correcting Memory absolute error	LSTM disagreement score	CNN disagreement score	MLP disagreement score	BI-LSTM disagreement score	CNN-LSTM disagreement score	System Disagreement
CNN absolute error	0.985546	1.000000	0.945150	0.984096	0.960660	0.996181	0.996198	0.995528	0.953444	0.989250	-0.009799	0.991348	0.816564	0.863372	0.665693	0.749178	0.776664	0.857036
MLP absolute error	0.942621	0.945150	1.000000	0.947023	0.961911	0.949725	0.953967	0.950207	0.957350	0.954191	0.018853	0.959329	0.793374	0.845573	0.669340	0.768156	0.771782	0.849600
BI-LSTM absolute error	0.976250	0.984096	0.947023	1.000000	0.948429	0.990890	0.991013	0.990596	0.943222	0.984531	0.011809	0.986858	0.794551	0.888447	0.659049	0.838447	0.821017	0.879721
CNN-LSTM absolute error	0.936080	0.960660	0.961911	0.948429	1.000000	0.952606	0.957339	0.954455	0.984279	0.958603	-0.047630	0.955455	0.757337	0.827759	0.710140	0.751168	0.695104	0.820016
Average absolute error	0.992264	0.996181	0.949725	0.990890	0.952606	1.000000	0.999650	0.999919	0.946220	0.993336	0.011479	0.992708	0.829347	0.870172	0.639577	0.770873	0.796508	0.866211
NoMemory absolute error	0.991802	0.996198	0.953967	0.991013	0.957339	0.999650	1.000000	0.999698	0.951196	0.993740	0.004591	0.992561	0.828724	0.871760	0.646864	0.772953	0.793984	0.867350
Memory absolute error	0.991141	0.996528	0.950207	0.990596	0.954455	0.999919	0.999698	1.000000	0.947432	0.993742	0.007241	0.992861	0.824625	0.865739	0.637077	0.767541	0.790973	0.861502
Focus absolute error	0.936052	0.953444	0.957350	0.943222	0.984279	0.946220	0.951196	0.947432	1.000000	0.949436	0.002051	0.952543	0.779846	0.851470	0.728670	0.764883	0.719931	0.843334
Anchor absolute error	0.982435	0.989250	0.954191	0.984531	0.958603	0.993336	0.993740	0.993742	0.949436	1.000000	0.037634	0.992561	0.806937	0.853088	0.620464	0.756845	0.770624	0.843483
Correcting absolute error	0.022540	-0.009799	0.018853	0.011809	-0.047630	0.011479	0.004591	0.007241	0.002051	0.037634	1.000000	0.054074	0.042943	0.045909	-0.080951	0.026737	0.050599	0.023281
Correcting Memory absolute error	0.981353	0.991348	0.959329	0.986858	0.955455	0.992708	0.992561	0.992861	0.952543	0.992561	0.054074	1.000000	0.808686	0.865786	0.640714	0.777121	0.796213	0.860096
LSTM disagreement score	0.890949	0.816564	0.793374	0.794551	0.757337	0.829347	0.828724	0.824625	0.779846	0.806937	0.042943	0.808686	1.000000	0.892705	0.645558	0.673759	0.843224	0.921158
CNN disagreement score	0.900468	0.863372	0.845573	0.888447	0.827759	0.870172	0.871760	0.865739	0.851470	0.853088	0.045909	0.865786	0.892705	1.000000	0.807879	0.886099	0.921585	0.991497
MLP disagreement score	0.662237	0.665693	0.669340	0.659049	0.710140	0.639577	0.646864	0.637077	0.728670	0.620464	-0.080951	0.640714	0.645558	0.807879	1.000000	0.653296	0.582766	0.789677
BI-LSTM disagreement score	0.764497	0.749178	0.768156	0.838447	0.751168	0.770873	0.772953	0.767541	0.764883	0.756845	0.026737	0.777121	0.673759	0.886099	0.653296	1.000000	0.877749	0.882392
CNN-LSTM disagreement score	0.826366	0.776664	0.771782	0.821017	0.695104	0.796508	0.793984	0.790973	0.719931	0.770624	0.050599	0.796213	0.843224	0.921585	0.582766	0.877749	1.000000	0.939581
System Disagreement	0.901757	0.870356	0.849600	0.879721	0.820016	0.866211	0.867350	0.861502	0.843334	0.843483	0.023281	0.860096	0.921158	0.991497	0.789677	0.882392	0.939581	1.000000

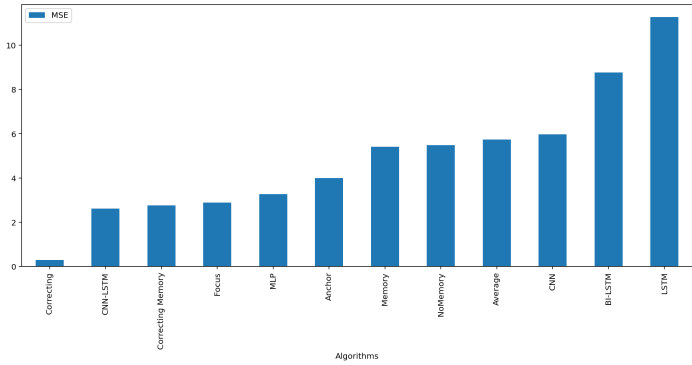


```
In [ ]: correlation_to_csv(din_ + run_id + '_Error_Correlation.csv')
```

MSE, MSE log and MAE scores

```
In [12]: mse = mse_score(all_forecasts, True)
mse
```

	Algorithms	MSE
0	Average	5.736552
1	NoMemory	5.477071
2	Memory	5.416116
3	Focus	2.886259
4	Anchor	3.983440
5	Correcting	0.285209
6	Correcting Memory	2.750885
7	LSTM	11.273420
8	CNN	5.967228
9	MLP	3.259404
10	BI-LSTM	8.766272
11	CNN-LSTM	2.618390

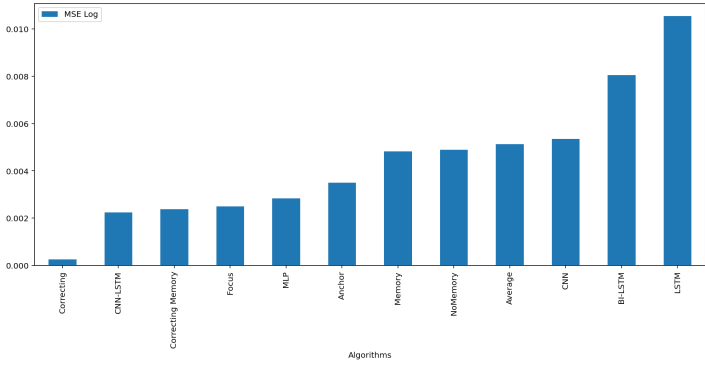


```
In [ ]: mse.to_csv(dir_ + run_id + '_MSE_score.csv')
```

```
In [13]: mse_log = mse_log_score(all_forecasts, True)
mse_log
```

Out[13]:

	Algorithms	MSE Log
0	Average	0.005129
1	NoMemory	0.004883
2	Memory	0.004826
3	Focus	0.002491
4	Anchor	0.003494
5	Correcting	0.000252
6	Correcting Memory	0.002373
7	LSTM	0.010552
8	CNN	0.005346
9	MLP	0.002833
10	Bi-LSTM	0.008051
11	CNN-LSTM	0.002248

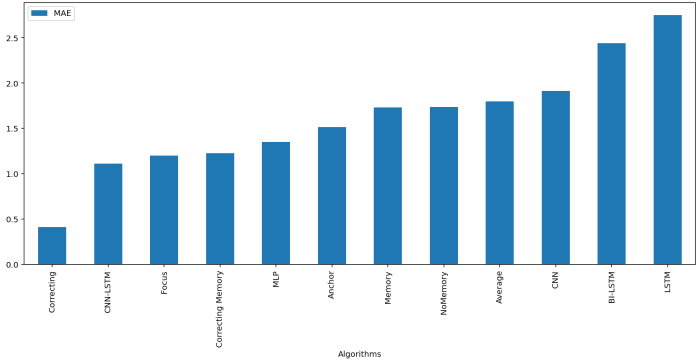


```
In [ ]: mse_log.to_csv(dir_ + run_id + '_MSE_log_score.csv')
```

```
In [14]: mae = mae_score(all_forecasts, True)
mae
```

Out[14]:

	Algorithms	MAE
0	Average	1.799415
1	NoMemory	1.735630
2	Memory	1.732969
3	Focus	1.199631
4	Anchor	1.516170
5	Correcting	0.411296
6	Correcting Memory	1.224634
7	LSTM	2.750965
8	CNN	1.912448
9	MLP	1.352358
10	Bi-LSTM	2.440123
11	CNN-LSTM	1.109514



```
In [ ]: mae.to_csv(dir_ + run_id + '_MAE_score.csv')
```

Performance plotting of all forecasting algorithms

```
In [15]: plot_performance(all_forecasts)
```

