Data about MSE of hour dataset with MLP neural network.

single feature	**MSE at i-th training (order of 10e3)**					
	1	2	3	4	5	**Mean MSE**
season	30.732	30.731	30.732	30.731	30.735	30.732
mth	30.443	30.436	30.439	30.451	30.438	30.442
hr	17.263	16.417	17.278	17.262	17.254	**17.095**
holiday	32.873	32.87	32.869	32.871	32.87	32.87
weekday	32.868	32.863	32.863	32.863	32.864	32.864
workingday	32.871	32.872	32.871	32.87	32.877	32.872
wheatersit	32.194	32.196	32.193	32.196	32.193	32.194
temp	27.194	27.27	27.307	27.197	27.198	27.225
atemp	26.884	26.953	27.31	26.998	26.847	27.01
hum	29.331	29.231	29.431	29.250	29.217	29.292
windspeed	32.378	32.385	32.389	32.391	32.379	32.385

What we can see is two things:

- the lowest (mean) MSE is obtained by **hr** feature. This is due because what we are going to estimate is the number of bike rental hourly.
- the order of magnitude of MSE is two magnitude lower than previous data set. This is due to larger sample space of this data set.

Now we train the neural network with fixed feature hr and another one that's chosen iteratively.

couple features: hr+	**MSE at i-th training (order of 10e3)**					
	1	2	3	4	5	**Mean MSE**
season	13.77368	13.68425	13.35919	13.18335	15.58739	13.91757

mth	13.73928	13.76637	13.61438	13.70462	14.07816	13.78056
holiday	16.32425	16.27010	16.47074	16.25824	16.24986	16.31464
weekday	15.15751	15.04234	13.12613	14.28898	13.06195	14.13538
workingday	12.13869	12.08431	13.85940	12.03708	12.02859	12.42961
wheatersit	15.49994	15.46798	15.25751	15.33471	16.85001	15.68203
temp	11.65893	11.63778	11.77370	11.77547	11.74738	**11.71865**
atemp	11.73098	11.62396	11.88229	12.64928	11.70827	11.91895
hum	16.86386	16.00808	15.20283	15.23128	15.34763	15.73074
windspeed	16.23934	17.08260	16.20826	16.53560	16.20672	16.45450

Best subset: hr+temp

triple of features: hr+temp+	**MSE at i-th training (order of 10e3)**					
	1	2	3	4	5	**Mean MSE**
season	12.23165	15.08597	11.39631	13.04325	11.33431	12.61830
mth	12.04546	12.41245	11.80295	11.51477	12.67348	12.08982
holiday	11.94937	12.33308	11.57209	12.50988	11.51584	11.97605
weekday	10.08881	10.39245	10.65954	10.54391	9.983799	10.33137

workingday	9.074525	9.317167	7.82432	7.194527	7.33885	**8.149878**
wheatersit	11.75894	11.86851	13.7163	11.56395	11.2024	12.02202
atemp	11.59851	12.32018	11.52864	12.00752	11.51428	11.79382
hum	10.87203	10.77428	10.7564	10.70893	11.50155	10.92264
windspeed	1.168996	1.154843	1.155548	1.160896	1.288095	1.185675

hr+temp+workingday is the best subset of features

4-ple of features: hr+temp+workingday+	**MSE at i-th training (order of 10e3)**					
	1	2	3	4	5	**Mean MSE**
season	7.071413	7.189397	8.690344	9.215570	6.853521	7.804049
mth	9.322604	7.303649	7.507664	7.776334	8.873417	8.156734
holiday	7.630686	7.274299	9.276433	7.198788	7.223747	7.720791
weekday	7.166127	9.364650	9.450339	7.635022	7.215240	8.166275
wheatersit	10.45912	11.34871	7.316692	6.526316	6.480275	8.426221
atemp	8.651998	7.166381	7.055574	8.769034	7.203794	7.769356
hum	6.923285	8.073496	6.497093	13.79030	7.248272	8.506489
windspeed	7.118755	7.393229	7.943928	7.067931	7.146753	**7.334119**

Best subset features: hr, working day, temp and windspeed.

5-ple of features: hr+temp+workingday+windspeed+	**MSE at i-th training (order of 10e3)**					
	1	2	3	4	5	**Mean MSE**
season	6.960520	7.100377	6.891286	6.893775	6.975133	**6.964218**
mth	6.985278	7.019568	7.082322	6.975814	7.044672	7.021531
holiday	7.188086	7.452818	7.218377	7.585456	9.501904	7.789328
weekday	7.038001	7.796920	7.653010	7.420309	7.646300	7.510908
wheatersit	8.204386	6.759650	6.545455	9.293743	6.830024	7.526652
atemp	7.318144	7.146187	7.337317	8.830999	7.520280	7.630586
hum	6.461049	8.176639	6.616922	9.373090	7.821222	7.689784

The input(s) hr workingday temp windspeed and season are best subset

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6-ple of features: hr+temp+workingday+windspeed+sea	**MSE at i-th training (order of 10e3)**					
	1	2	3	4	5	**Mean MSE**

son						
mth	9.087476	9.0261	8.848565	9.876023	6.661793	8.699991
holiday	7.783063	7.101425	7.250317	7.467077	8.917149	7.703806
weekday	7.238588	6.734295	7.336156	6.706113	7.140653	7.031161
wheatersit	7.29028	6.459254	6.605038	6.251668	6.185915	**6.558431**
atemp	7.84574	9.149870	6.843797	7.009151	7.394887	7.64869
hum	7.803298	13.55351	6.464438	6.426565	6.146307	8.078824

The input(s) season hr workingday temp windspeed and wheatersit are the best sub set of feature

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7-ple of features: hr+temp+workingday+windspeed+season+wheatersit	**MSE at i-th training (order of 10e3)**					
	1	2	3	4	5	**Mean MSE**
mth	6.780835	6.334200	6.720616	6.096469	7.840736	**6.754571**
holiday	6.159697	7.950111	9.289241	8.56658	6.168771	7.626880
weekday	5.963058	8.227264	10.04729	6.808665	6.117998	7.432855
atemp	8.170734	6.089854	7.876663	13.94748	6.572615	8.531469
hum	6.001829	8.480387	6.461084	6.437629	10.42465	7.561115