

---

```
clc
close all
clear
```

## For Testing Just Copy Result SVM Matrix in Test Folder

```
negURL = './neg\';
posURL = './pos\';
maximumTrainingSamples = 20;
C = .0001;
if(exist('NegativeTrainHOG.mat','file')~=2 || exist('PositiveTrainHOG.mat','file'))
HOGTrainingFolder(negURL,posURL,maximumTrainingSamples);
end
TrainSVM(maximumTrainingSamples,C);
```

Iter	$f(x)$	Feasibility	First-order optimality	Total relative error
0	1.890400e+03	1.000e+04	8.974e+03	1.229e+04
1	1.101787e+04	1.258e+02	1.138e+02	2.214e+04
2	6.497276e+03	0.000e+00	7.505e+01	1.261e+04
3	2.434996e+03	0.000e+00	1.404e+01	4.050e+03
4	1.371474e+03	0.000e+00	9.535e-01	1.683e+03
5	5.330445e+02	0.000e+00	2.802e-01	7.062e+02
6	2.262167e+02	0.000e+00	3.338e-02	2.607e+02
7	1.486752e+01	0.000e+00	1.101e-03	2.564e+01
8	2.423374e+00	0.000e+00	1.232e-04	4.032e+00
9	2.712271e-01	0.000e+00	1.053e-05	5.034e-01
10	4.198477e-02	0.000e+00	4.300e-06	7.321e-02
11	6.843531e-03	0.000e+00	1.938e-06	1.037e-02
12	1.433169e-03	0.000e+00	6.132e-07	1.418e-03
13	5.821381e-04	0.000e+00	9.826e-08	1.791e-04
14	4.538119e-04	0.000e+00	1.360e-08	1.225e-05
15	4.480366e-04	0.000e+00	9.998e-10	4.744e-07

Minimum found that satisfies the constraints.

Optimization completed because the objective function is non-decreasing in feasible directions, to within the default value of the function tolerance and constraints are satisfied to within the default value of the constraint

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