

Session No. 7

ME17B162

## **CS4830 Big Data Laboratory**

### **Lab Session No.7**

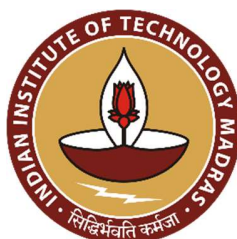
### **Assignment**

*Lab Report*

*submitted by*

**SAARTHAK SANDIP MARATHE**

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CHENNAI 600036, INDIA.**

**July-Nov 2021**

# LAB 7 ASSIGNMENT

SAARTHAK SANDIP MARATHE | ME17B162

## Part A:

```
me17b162@kafka-lab7-vm: ~ - Google Chrome
ssh.cloud.google.com/projects/confident-trail-305308/zones/us-east1-c/instances/kafka-lab7-vm?useAdminProxy=true&authuser=1&hl=en_US&projectNumber=767288693120
4.9,3,1,4,0.2,Iris-setosa
4.7,3,2,1,3,0.2,Iris-setosa
4.6,3,1,1,5,0.2,Iris-setosa
5,3,6,1,4,0.2,Iris-setosa
5.4,3,9,1,7,0.4,Iris-setosa
4.6,3,4,1,4,0.3,Iris-setosa
5,9,4,1,5,0.2,Iris-setosa
4.4,2,9,1,4,0.2,Iris-setosa
4.9,3,1,1,5,0.1,Iris-setosa
5.4,3,7,1,5,0.2,Iris-setosa
4.9,3,4,1,5,0.2,Iris-setosa
4.8,3,1,4,0.1,Iris-setosa
4.3,3,1,1,0.1,Iris-setosa
5.0,4,1,2,0.2,Iris-setosa
5.7,4,4,1,5,0.4,Iris-setosa
5.4,3,9,1,3,0.4,Iris-setosa
5.1,3,5,1,4,0.3,Iris-setosa
5.7,3,8,1,7,0.3,Iris-setosa
5.1,3,8,1,5,0.3,Iris-setosa
5.4,3,4,1,7,0.2,Iris-setosa
5.1,3,7,1,5,0.4,Iris-setosa
4.6,3,6,1,0.2,Iris-setosa
5.1,3,3,1,7,0.5,Iris-setosa
4.8,3,4,1,9,0.2,Iris-setosa
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5.2,4,1,6,0.4,Iris-setosa
5.2,3,5,1,5,0.2,Iris-setosa
5.2,3,4,1,4,0.2,Iris-setosa
4.7,3,2,1,6,0.2,Iris-setosa
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5.2,4,1,1,5,0.1,Iris-setosa
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5.3,2,1,2,0.2,Iris-setosa
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5.1,3,4,1,5,0.2,Iris-setosa
5.3,5,1,3,0.3,Iris-setosa
4.5,2,3,1,3,0.3,Iris-setosa
4.9,3,2,1,3,0.2,Iris-setosa
5.3,5,1,6,0.6,Iris-setosa
5.1,3,8,1,9,0.4,Iris-setosa
4.8,3,1,4,0.3,Iris-setosa
5.1,3,8,1,6,0.2,Iris-setosa
4.6,3,2,1,4,0.2,Iris-setosa
5.3,3,7,1,5,0.2,Iris-setosa
5.3,3,1,4,0.2,Iris-setosa
7,3,2,4,7,1,4,Iris-versicolor
```

This is the output received

## PART B:

Model creation using train\_model.py:

```
Job output LINE WRAP: OFF
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.109677 (rel: 0.107) 0.0328320
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0971416 (rel: 0.114) 0.0328910
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0782881 (rel: 0.194) 0.0340587
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0762452 (rel: 0.0261) 0.0524996
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0753067 (rel: 0.0123) 0.0254571
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0745574 (rel: 0.00995) 0.00614117
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0744097 (rel: 0.00198) 0.00706085
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0738183 (rel: 0.00795) 0.0148788
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0716834 (rel: 0.0289) 0.0281199
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0675648 (rel: 0.0575) 0.0383808
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0610905 (rel: 0.0958) 0.0346019
21/04/12 18:01:05 INFO breeze.optimize.StrongWolfeLineSearch: Line search t: 0.15903502607248332 fval: 0.060243199427883476 rhs: 0.06109036957411083 cdd: 3.9935802687300626E-4
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 0.1590
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0602432 (rel: 0.0139) 0.0563147
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0557977 (rel: 0.0738) 0.0186424
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0548109 (rel: 0.0177) 0.0056837
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0545443 (rel: 0.00486) 0.0115856
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Step Size: 1.000
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Val and Grad Norm: 0.0544628 (rel: 0.00150) 0.00790783
21/04/12 18:01:05 INFO breeze.optimize.LBFGS: Converged because max iterations reached
Best_model valid performance (LR): 0.9666666666666667
```

Bucket files:

lab7\_saarthak

OBJECTS CONFIGURATION PERMISSIONS RETENTION LIFECYCLE

Buckets > lab7\_saarthak

UPLOAD FILES UPLOAD FOLDER CREATE FOLDER MANAGE HOLDS DOWNLOAD DELETE

Filter by name prefix only Filter objects and folders

<input type="checkbox"/>	Name	Size	Type	Created time	Storage class	Last modified	Public access	Encryption	Retention expiration date	Holds
<input type="checkbox"/>	iris.csv	4.5 KB	application/octet-stream	Apr 11, 2021, 1...	Standard	Apr 11, 20...	Not public	Google-managed key	—	No
<input type="checkbox"/>	subscriber.py	2.6 KB	application/octet-stream	Apr 13, 2021, 1...	Standard	Apr 13, 20...	Not public	Google-managed key	—	No
<input type="checkbox"/>	train_model.py	2.7 KB	application/octet-stream	Apr 13, 2021, 1...	Standard	Apr 13, 20...	Not public	Google-managed key	—	No
<input type="checkbox"/>	trained_model/	—	Folder	—	—	—	—	—	—	—

Final output after checking using the iris dataset:

Job output LINE WRAP: OFF

```
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
|Iris-setosa|Iris-setosa| 1|
+-----+
only showing top 20 rows
```

Batch: 1

```
+-----+
|accuracy|
+-----+
| 95.86|
+-----+
```

FINISH