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DEPARTAMENTO DE SISTEMAS Y COMPUTACIÓN

SEMESTRE:

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CARRERA:

Ingeniería en Sistemas Computacionales

MATERIA:

Datos Masivos

TÍTULO:

Practica-Multilayer Perceptron Classifier

UNIDAD A EVALUAR:

Unidad -2

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Multilayer Perceptron Classifier

We import the necessary libraries to obtain the perception of the evaluation

```
import
org.apache.spark.ml.classification.MultilayerPerceptronClassifier
import
org.apache.spark.ml.evaluation.MulticlassClassificationEvaluator
```

Load the data stored in LIBSVM format as a DataFrame

```
val data =
spark.read.format("libsvm").load("sample_multiclass_classification
_data.txt")
```

Divide the data into training and testing

```
val splits = data.randomSplit(Array(0.6, 0.4), seed = 1234L)
val train = splits(0)
val test = splits(1)
```

Specify layers for the neural network: input layer of size 4 (features), two intermediate layer of size 5 and 4, output of size 3 (classes)

```
val layers = Array[Int](4, 5, 4, 3)
```

Create the trainer and set its parameters

```
val trainer = new
MultilayerPerceptronClassifier().setLayers(layers).setBlockSize(12
8).setSeed(1234L).setMaxIter(100)
```

Train the model

```
val model = trainer.fit(train)
```

Calculate accuracy on test equipment

```
val result = model.transform(test)
val predictionAndLabels = result.select("prediction", "label")
val evaluator = new
MulticlassClassificationEvaluator().setMetricName("accuracy")
```

Print the corresponding test already evaluated

```
println(s"Test set accuracy =
${evaluator.evaluate(predictionAndLabels)}")
```