KKR & KSR INSTITUTE OF TECHNOLOGY &SCIENCES

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Department of Computer Science and Engineering

A Five Days Boot Camp
On
Machine Learning

Date: 16 – 20, July, 2019
Time: 10:00 AM to 5:20 PM
Venue: Seminar Hall
Resource Person: Mr. P. Madhusudhan &Team from MadBlocks
Event Description:

Machine Learning is the field of study that gives computers the capability to learn without being explicitly programmed. ML is one of the most exciting technologies that one would have ever come across. As it is evident from the name, it gives the computer that which makes it more similar to humans: ***The ability to learn***. Machine learning is actively being used today, perhaps in many more places than one would expect.

Day 1:

The session was started by Head of the Department and Mr. madhusudhan from mad Blocks. They addressed the students by saying the importance of one of the trending technologies machine learning.

Later the session was handled by Mr. Sairam, mentor. He started with Python Basics and focused on the concepts like **Python** Version Numbers, Using the **Python** Shell, Using 'os' and 'sys', List Comprehension, Slicing, Dictionaries and Sets, Copying Structures (and Basic Memory Management), Generators.

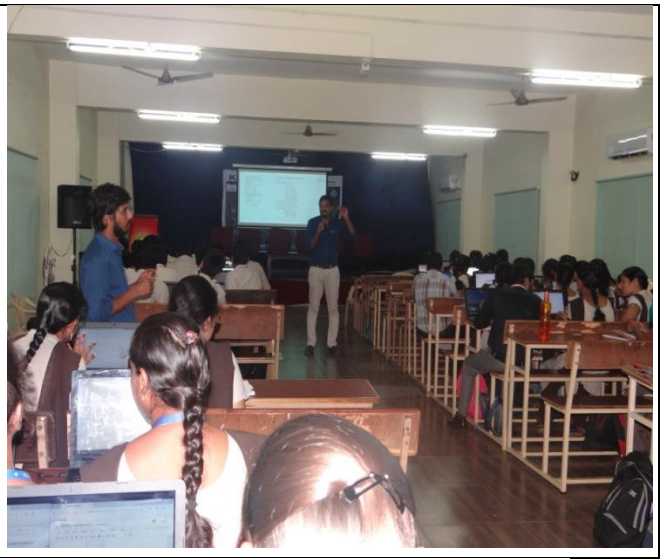
Various other concepts also discussed and given a practice session on Installation of python software and applications of python, data types and practice examples on data types.

Day 2:

The day 2 session started with some installation packages of python and installation of anaconda software. Later Mr. Sairam explained data analysis with pandas and also some concepts in that like, data frames, reindexing, selection with loc and iloc, arithematic and data alignment, sorting and ranking, JSON data and many more by making the students practice with each and every concept.

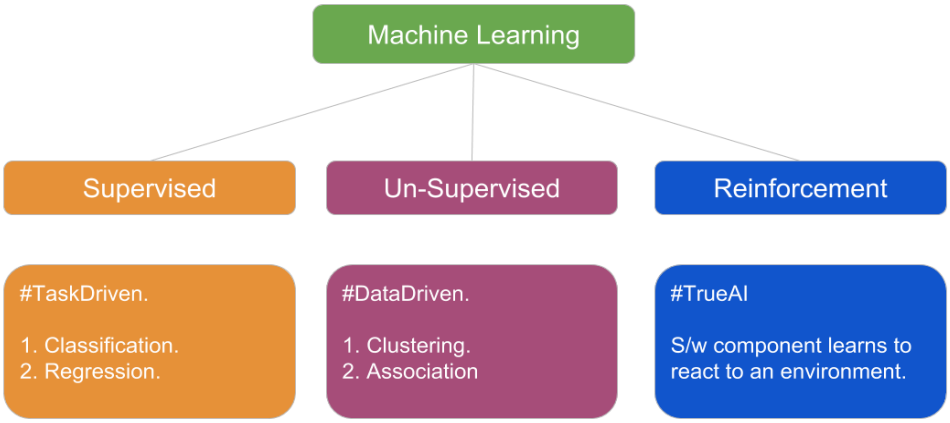
In the afternoon session, he explained the concepts and get the students practiced like, plotting and visualization, plots, colors and marking, line styles, legend, labels, ticks, bar graphs, histograms and density plots.

He also explained data analysis with sea born and data analysis with time series with some examples each.

Day 3:

The session started with the introduction to machine learning and covers the concepts like MI Vs artificial intelligence, 6 jars in MI, 6 different models in machine learning, and mainly focused on following data with certain examples explanation of each:

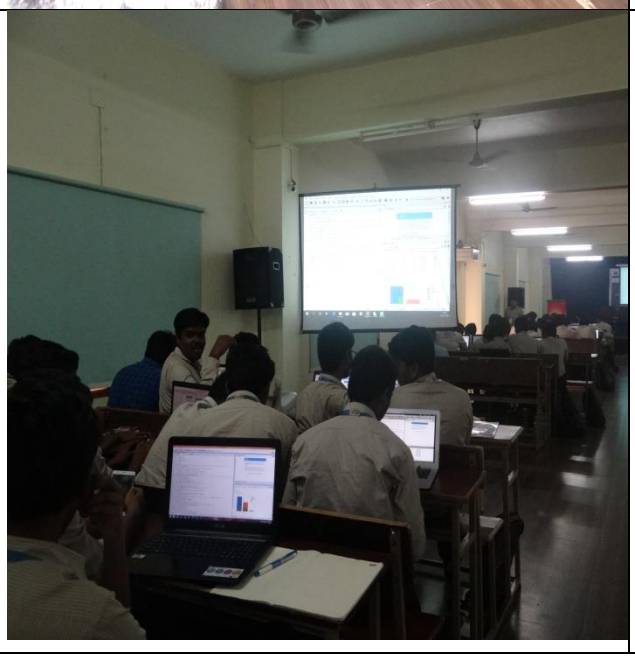


Day 4:

On day 4, mentor focused on the following concept with an example.

How you mark and refer to time series data depends on the application, and you may have one of the following:

- Timestamps, specific instants in time.
- Fixed periods, such as the month January 2007 or the full year 2010.
- Intervals of time, indicated by a start and end timestamp. Periods can be thought of as special cases of intervals.
- Experiment or elapsed time; each timestamp is a measure of time relative to a particular start time (e.g., the diameter of a cookie baking each second since being placed in the oven.



Day 5:

On day 5, mentor explained the concept of Support vector Machine and its applications and also explained the concept with example.

Support Vector Machine is a supervised classification method that separates data using Hyperplanes. It draws the decision boundary between data instances plotted in the multi-dimensional feature spaces. Hyperplane is the generalization of a plane.

i.In one dimension, a hyperplane is called a point
ii.In two dimensions, it is a line
iii.In three dimensions, it is a plane
iv.In more dimensions you can call it a hyperplane

SVM has been used successfully in many real-world problems

- Text (and hypertext) categorization

- Image classification

- Bioinformatics (Protein classification, Cancer classification)

- Handwritten character,digit recognition

H. O. D.