Summer 2023: CS5710 – Machine Learning

**In-Class Programming Assignment-1**

**GITHUB LINK: https://github.com/Rajesh-Adepu/Assignment-1.git**

# NumPy:

* 1. Using NumPy create random vector of size 15 having only Integers in the range 1-20.
     1. Reshape the array to 3 by 5
     2. Print array shape.
     3. Replace the max in each row by 0

Create a 2-dimensional array of size 4 x 3 (composed of 4-byte integer elements), also print the shape, type, and data type of the array.

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* 1. Write a program to compute the eigenvalues and right eigenvectors of a given square array given below:   
     [[ 3 -2]

[ 1 0]]

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* 1. Compute the sum of the diagonal element of a given array.

[[0 1 2]  
[3 4 5]]

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* 1. Write a NumPy program to create a new shape to an array without changing its data. Reshape 3x2:  
     [[1 2]

[3 4]

[5 6]]

Reshape 2x3:

[[1 2 3]

[4 5 6]]

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# Matplotlib

1. Write a Python programming to create a below chart of the popularity of programming Languages.
2. Sample data: Programming languages: Java, Python, PHP, JavaScript, C#, C++ Popularity: 22.2, 17.6, 8.8, 8, 7.7, 6.7

A screenshot of a computer

Description automatically generated with low confidence