Project – Module 1 (2024)
AI Fundamentals

High Impact Skills Development Program

in Artificial Intelligence, Data Science, and Blockchain

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During the first module, we have learnt some basic classifiers and linear regression models in class. During the lab, we have practiced basics of python for machine learning.

In this project, each student is required to implement the following in python:

The nearest neighbor classifier requires finding nearest neighbor using distance metrics (known as $l_p$norms). You are required to write a python function that takes two arrays (2D vectors) as input, and find nearest of each Array 1 data point in Array 2. More specifically:

- The function should calculate distance of one data point of Array1, with all data points of Array 2, and find its nearest in Array 2.
- This should be repeated for all points of Array 1.
- The function should also take norm identifier (as 1,2,or ∞) as input, and select the distance metric accordingly.
- The function should return an array containing pairs of data points which are closest.

Evaluation of the Project will be done on Saturday, Aug 10 during lab hours.

Happy Learning ☺