PRE-REQUISITES

DATE	22 August 2022
PROJECT ID	PNT2022TMID16369
PROJECT NAME	AI- Powered Nutrition Analyzer for fitness Enthusiasts

To develop this project we need to install the following software/packages:

- **Anaconda Navigator**

Anaconda Navigator is a free and open-source distribution of the python and R programming languages for data science and machine learning-related applications. It can be installed on Windows, Linux, and macOS .Conda is an open-source, cross-platform, package management system, Anaconda comes with great tools like Jupiter Lab, Jupiter Notebook, Spyder, Orange, R studio,Visual Studio Code.

- **Flask**

Web framework used for building web applications.

For anaconda navigator, follow the below steps to download the required packages open anaconda prompt as administrator.

If you are using Pycharm IDE, you can install the packages through the command prompt and follow the same syntax as above.

- **Python packages**

  - Open anaconda prompt as administrator
  - Type "pip install num py" and click enter.
  - Type "pip install pandas" and click enter.

> ➢ Type "pip install scikit-learn" and click enter.
> ➢ Type "pip install tensorflow==2.3.0" and click enter.
> ➢ Type "pip install keras==2.4.0" and click enter.
> ➢ Type "pip install Flask" and click enter.
> ➢

- ## Deep learning concepts

  It is a subset of machine learning , deep learning algorithms are perhaps best exemplified by multi-layer neural networks(NN), which uses multi-layer neural networks to get an idea of imputed unsorted data based on learnt in its. Uses basics concepts from brain biology. Useful when there is a quality of input data.

- ## Artificial Neural Networks

  ANN is an efficient computing system whose central them is borrowed from the analogy of biological neural networks. ANN is a real so named as "artificial neural systems", or parallel distributed systems", or "connectional systems". ANN acquires a large collection of units that are interconnected in some pattern to allow communication between the units. These units, also referred to as nodes or neurons, are simple processors which operate in parallel.

- ## Convolution Neural Networks

  A convolutional neural network is a class of deep neural networks, most commonly applied to analyzing visual imagery. The construction of convolutional neural network is a multi-layered feed-forward neural network, made by assembling many unseen layers on top of each other in a particular order. It is the sequential design that gives permission to CNN to learn hierarchical attributes. In CNN, some of them are followed by grouping layers and hidden layers are typically activation layers.