Prerequisites

Date	22 August 2022
Team ID	PNT2022TMID23671
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 .Con da is an open-source,
cross-platform, package management system. Anaconda comes with great tools like JupyterLab, Jupyter Notebook, QtConsole, Spyder, Glueviz, Orange, Rstudio, Visual StudioCode.

- **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 P y charm IDE, you can install the packages through the command prompt and follow the same syntax as above.

Web framework used for building Web applications

- Python packages:

  - open anaconda prompt as administrator
  - Type "pip install num py" and clickenter.
  - Type "pip install pandas" and clickenter.
  - 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 clickenter.

- **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 ra its. Uses basic concepts from brain biology. Useful when there is a quantity of input data.

- **Artificial Neural Networks**

ANN is an efficient computing system who se central theme is borrowed from the analogy of biological neural networks .ANN s a real so named as "artificial neural systems," or "parallel distributed processing systems," or "connectionist systems." ANN acquires a large collection of units that are interconnected in some pat ern 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 a convolutional neural network is a multi-layered feed-forward neural network, made by assembling many unseen layers on to p of each other in a particular order. It is the sequential design that gives permission to CNN to learn hierarchical at ributes. In CNN, some of them are followed by grouping layers and hidden layers are typically activation layers.
convolutional layers followed by