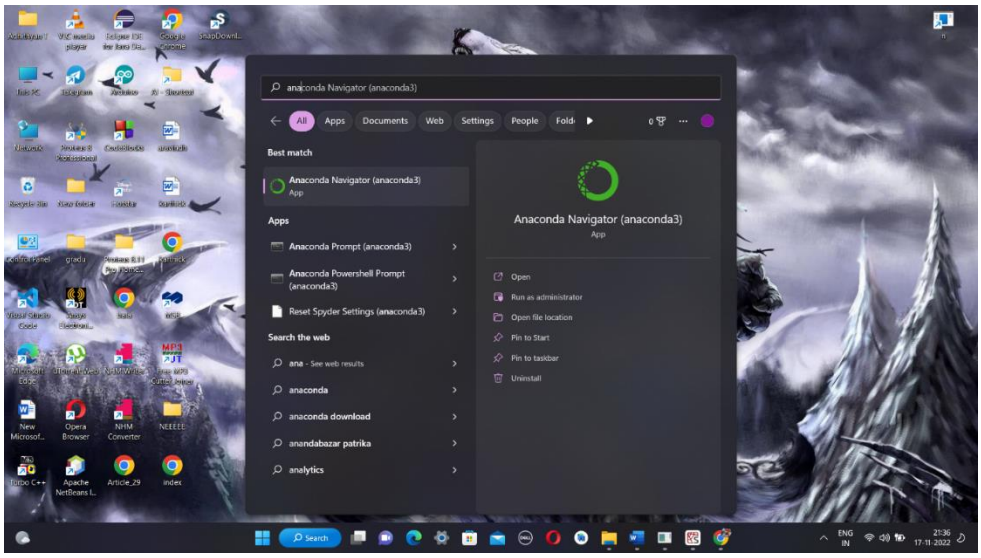
Solution requirements (functional and non-functional)

Team Id	PNT2022TMID07306
Project Name	AI-powered Nutrition Analyzer for Fitness Enthusiasts

1. 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 JupyterLab, Jupyter Notebook, QtConsole, Spyder, Glueviz, Orange, Rstudio, Visual Studio Code.

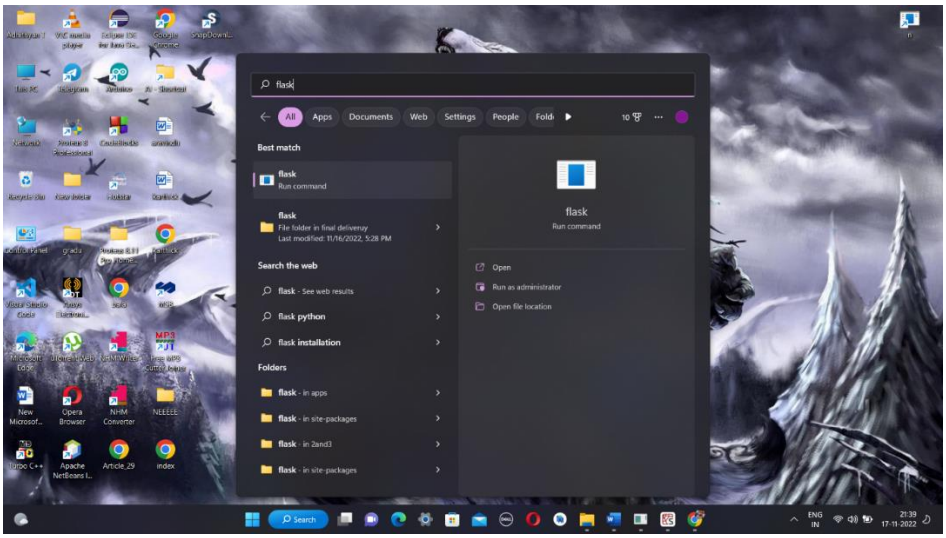


2. Python packages:

- "pip install numpy"
- "pip install pandas"
- "pip install scikit-learn"
- "pip install tensorflow==2.3.0"
- "pip install keras==2.4.0"
- "pip install Flask"

3. **Flask framework :**

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. Web framework used for building Web applications.



4. **Deep Learning Concepts :**

- Artificial Neural Networks:

ANN is an efficient computing system whose central theme is borrowed from the analogy of biological neural networks. ANNs are also 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 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 a 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 convolutional layers followed by activation layers.