

Pre-Requisites:

TEAM ID : PNT2022TMID32768

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

Step 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.

For this project, we will be using Jupyter notebook and Spyder

Step 2:

To build Machine learning models we require the following packages:

Sklearn: Scikit-learn is a library in Python that provides many unsupervised and supervised learning algorithms.

Simple and efficient tools for data mining and data analysis. It features various classification, regression and clustering algorithms including support vector machines, random forests, gradient boosting, k-means, etc.

NumPy: NumPy is a Python package that stands for 'Numerical Python'. It is the core library for scientific computing, which contains a powerful n-dimensional array object.

NumPy provides both the flexibility of Python and the speed of well-optimized compiled C code. Its easy to use syntax makes it highly accessible and productive for programmers from any background.

Pandas: Pandas is a fast, powerful, flexible, and easy to use open source data analysis and manipulation tool, built on top of the Python programming language.

Pandas is mainly used for data analysis and associated manipulation of tabular data in DataFrames. Pandas allows importing data from various file formats such as comma-separated values, JSON, Parquet, SQL database tables or queries, and Microsoft Excel.

Matplotlib: It provides an object-oriented API for embedding plots into applications using generalpurpose GUI toolkits.It is an easy to use and an amazing visualizing library in Python.

It is built on NumPy arrays and designed to work with the broader SciPy stack and consists ofseveral plots like line, bar, scatter, histogram, etc.

Flask: Web framework used for building Web applications.Flask is a popular **micro framework** for building web applications. Since it is a micro-framework, it is very easy to useand lacks most of the advanced functionality which is found in a full-fledged framework.

Therefore, building a REST API in Flask is very simple.

Flask is used for developing web applications using python, implemented on Werkzeug and Jinja2:

Westernize is a WSGI toolkit, which implements requests, response objects, and other utility functions. This enables building a web framework on top of it. The Flaskframework uses Westernize as one of its bases.

Jinja2 is a popular templating engine for Python. A web templating systemcombines a template with a certain data source to render dynamic web pages.

Using Anaconda navigator the following commands are used to download the aforementioned packages:

1. Open anaconda prompt.
2. Type "**pip install numpy**" and click enter.
3. Type "**pip install pandas**" and click enter.
4. Type "**pip install matplotlib**" and click enter.
5. Type "**pip install scikit-learn**" and click enter.
6. Type "**pip install Flask**" and click enter.

Thus the required pre-requisites are installed.

