

# Rising Waters: A Machine Learning Approach to Flood Prediction

DATE	28-02-2026
TEAM ID	LTVIP2026TMIDS89043
PROJECT NAME	Rising Waters: A Machine Learning Approach to Flood Prediction
MAXIMUM MARKS	2 MARKS

## CHAPTER-6

### 6.1 PRE-REQUISITES:

To complete this project, we require the following software's, and packages.

- Anaconda Navigator
- PyCharm
- Python

### ANAKONDA NAVIGATER:

How to Install Anaconda on Windows:

Anaconda is a popular open-source distribution of Python and R and is widely used in the field of data science, machine learning and scientific computing. It contains Jupyter, Spyder, etc. that are well capable of handling a large number of data sets and processes as per user's need. It helps in simplifying package management and deployment, which promotes a robust environment for various data-related tasks.

#### Step 1: Visit the Official Website:

Download Anaconda from <https://www.anaconda.com> .

Make sure to download the “Python 3.13.1 Version”.



#### Step 2: Select the Windows Installer.

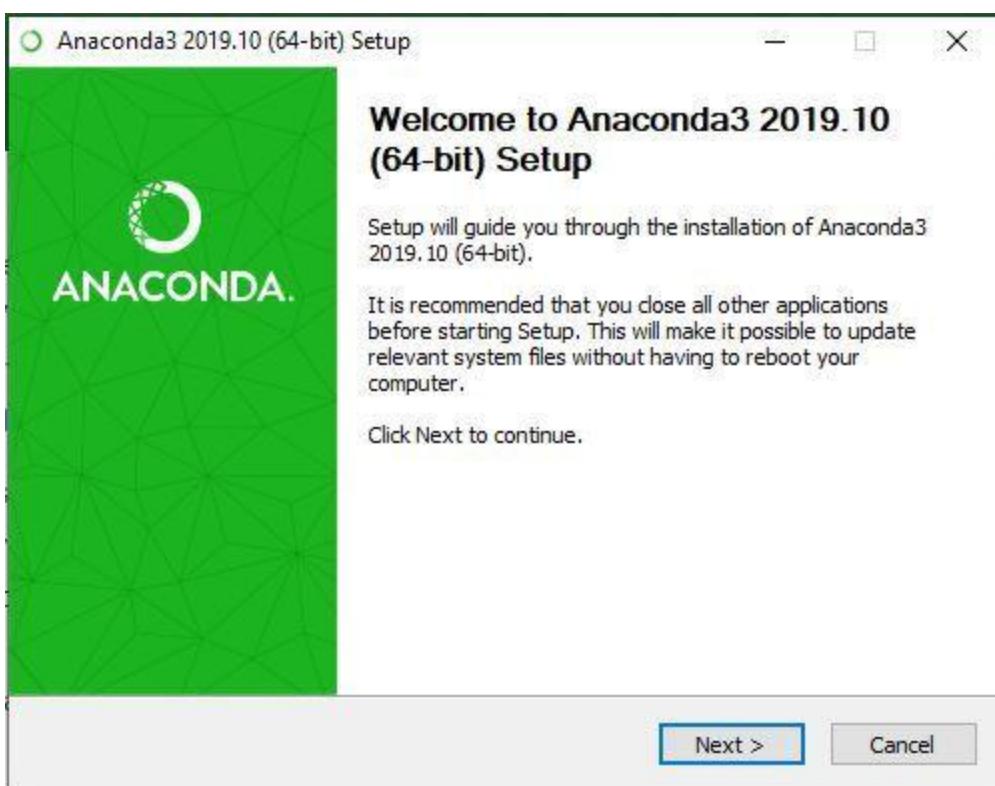
- Click on the Download button.

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- Under the operating system options, select Windows.
- Choose Windows Installer (64-bit) .
- Download the .exe installer file.
- Select the location where you want to save the file and click "Save" to start the downloading process.

### Step3: Run the Anaconda Installer

Once the installation is completed, now we will see how to setup [Anaconda](#) Installer in [Windows](#). Begin with the installation process.



### Step 4: Getting through the License Agreement :

Follow the on-screen instructions, read the license terms & agreement and proceed ahead.

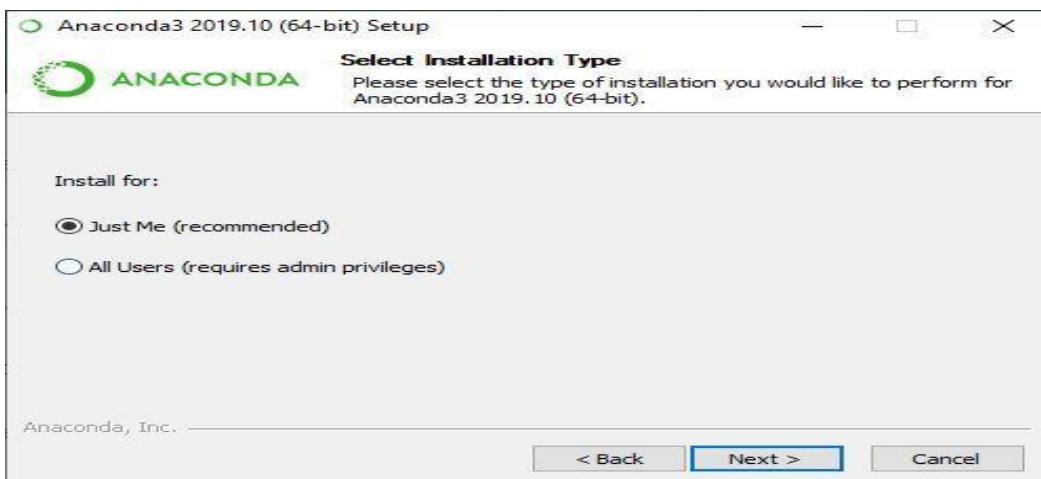
- Click on the "I Agree" button to accept the terms.
- The installation process will continue to the next setup window.

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## Step 5: Select Installation Type :

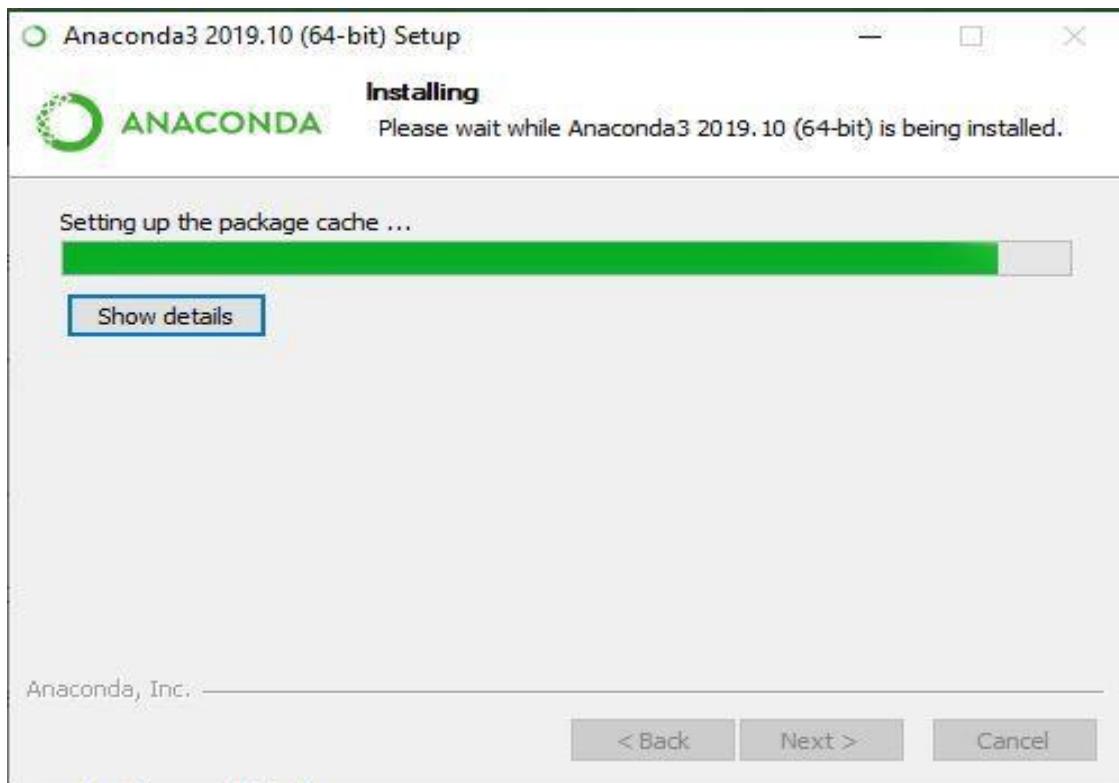
Select Just Me if you want the software to be used by a single User else you can select All Users.



## Step 6: Getting through the Installation Process :

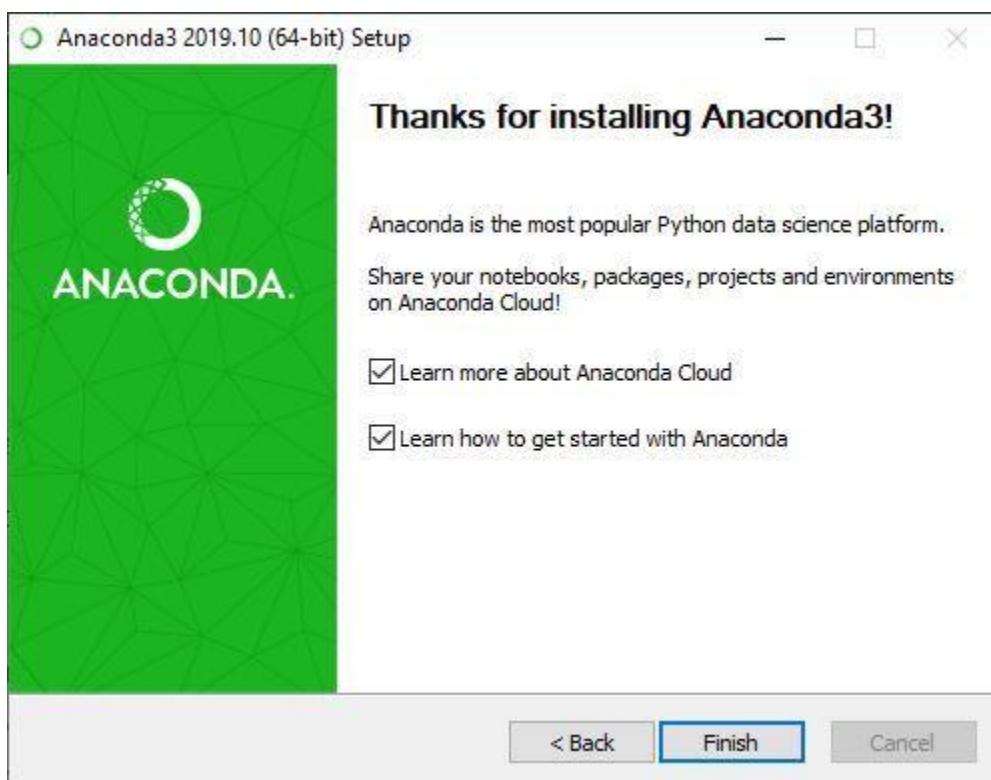
- Select the path where you wish to install the file extractor.
- Click "Next" to proceed .
- Click Install to start the Anaconda Installation process.

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### Step 7: Finishing up the Installation:

Once the installation gets complete, click Finish to complete the process.



## PYCHARM

# Rising Waters: A Machine Learning Approach to Flood Prediction

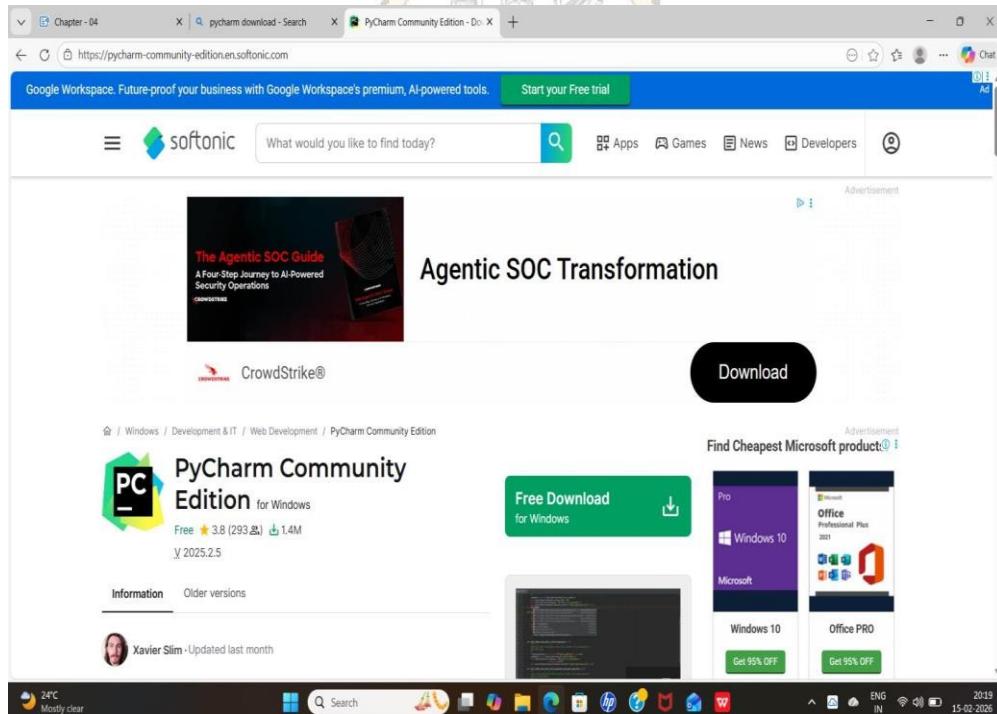
## Installing PyCharm on Windows:

### 1. Go to the JetBrains PyCharm website

- Open any web browser (Chrome, Edge, Firefox, etc.).
- Type [pycharm.jetbrains.com](https://pycharm.jetbrains.com) in the address bar and press Enter.

### 2. Click Download

- On the PyCharm homepage, you'll see a Download button.
- Click it to go to the download page.



### 3. Choose Community or Professional

You will see two versions of PyCharm:

PyCharm Community Edition (Free)

Choose this if:

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- You are a beginner or student
- You are learning basic Python
- You are doing school projects, scripting, or simple programs

What it includes:

- Python editor
- Code suggestions (auto-complete)
- Debugger
- Basic project tools

## 4. Download the Windows (.exe) installer

- Under your chosen version, click Download for Windows.
- A file ending in .exe will start downloading.
- Wait for the download to complete.

## HOW TO INSTALL THE PACKAGES :

To install the packages , open pycharm

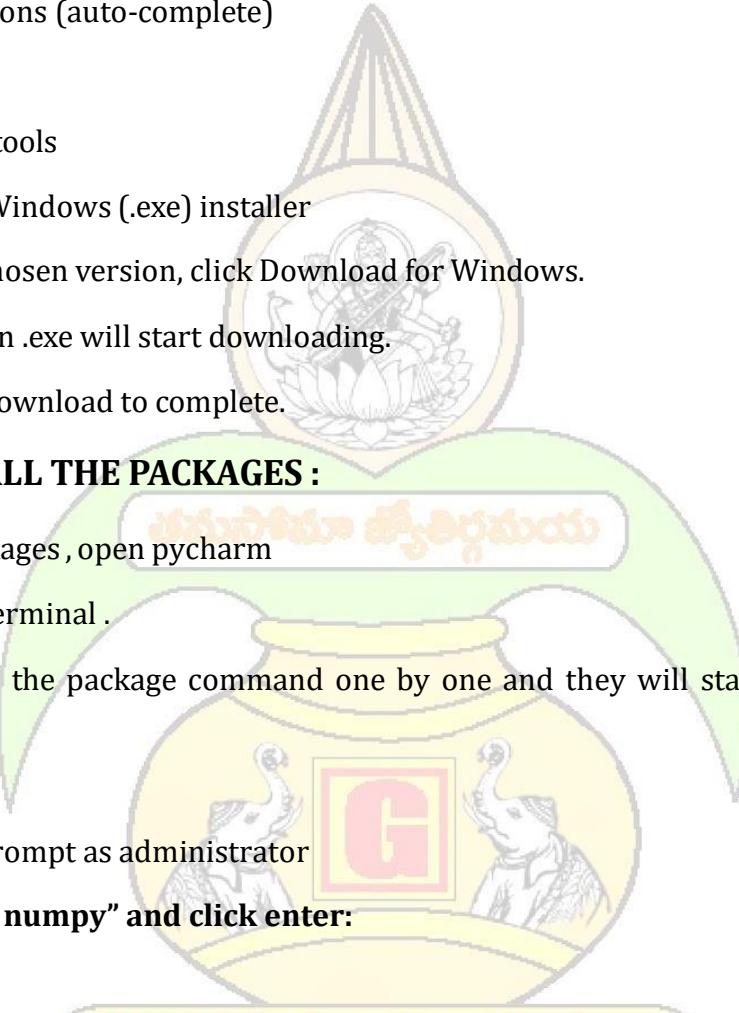
Step-1: click on Terminal .

Step-2: Now, Run the package command one by one and they will start installing in the interpreter

Python packages:

Open anaconda prompt as administrator

Type “**pip install numpy**” and click enter:



```
(.venv) PS E:\PythonProject> pip install numpy
Requirement already satisfied: numpy in c:\users\cjohn\appdata\local\programs\python\python313\lib\site-packages (2.4.2)

[notice] A new release of pip is available: 25.1.1 -> 26.0.1
[notice] To update, run: python.exe -m pip install --upgrade pip

(.venv) PS E:\PythonProject> pip install pandas
Requirement already satisfied: pandas in c:\users\cjohn\appdata\local\programs\python\python313\lib\site-packages (3.0.0)
Requirement already satisfied: numpy>=1.26.0 in c:\users\cjohn\appdata\local\programs\python\python313\lib\site-packages (from pandas) (2.4.2)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\cjohn\appdata\local\programs\python\python313\lib\site-packages (from pandas)
PythonProject > main.py          Updating skeletons... [Progress Bar]           Python 3.13 (PythonProject)
```

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Type “pip install pandas” and click enter.

```
PS E:\AI&ML PROJECT> pip install pandas
Requirement already satisfied: pandas in c:\users\cjohn\anaconda3\lib\site-packages (2.3.3)
Requirement already satisfied: numpy>=1.26.0 in c:\users\cjohn\anaconda3\lib\site-packages (from pandas) (2.3.5)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\cjohn\anaconda3\lib\site-packages (from pandas) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in c:\users\cjohn\anaconda3\lib\site-packages (from pandas) (2025.2)
Requirement already satisfied: tzdata>=2022.7 in c:\users\cjohn\anaconda3\lib\site-packages (from pandas) (2025.2)
Requirement already satisfied: six>=1.5 in c:\users\cjohn\anaconda3\lib\site-packages (from python-dateutil>=2.8.2->pandas) (1.17.0)
PS E:\AI&ML PROJECT>
```

Type “pip install scikit-learn” and click enter.

```
PS E:\AI&ML PROJECT> pip install scikit-learn
Requirement already satisfied: scikit-learn in c:\users\cjohn\anaconda3\lib\site-packages (1.7.2)
Requirement already satisfied: numpy>=1.22.0 in c:\users\cjohn\anaconda3\lib\site-packages (from scikit-learn) (2.3.5)
Requirement already satisfied: scipy>=1.8.0 in c:\users\cjohn\anaconda3\lib\site-packages (from scikit-learn) (1.16.3)
Requirement already satisfied: joblib>=1.2.0 in c:\users\cjohn\anaconda3\lib\site-packages (from scikit-learn) (1.5.2)
Requirement already satisfied: threadpoolctl>=3.1.0 in c:\users\cjohn\anaconda3\lib\site-packages (from scikit-learn) (3.5.0)
PS E:\AI&ML PROJECT>
```

27:12 CRLF UTF-8 4 spaces Python 3.14

Type “pip install matplotlib” and click enter.

```
PS E:\AI&ML PROJECT> pip install matplotlib
Requirement already satisfied: matplotlib in c:\users\cjohn\anaconda3\lib\site-packages (3.10.6)
Requirement already satisfied: contourpy>=1.0.1 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib) (1.3.3)
Requirement already satisfied: cycler>=0.10 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib) (0.11.0)
Requirement already satisfied: fonttools>=4.20.0 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib) (4.60.1)
Requirement already satisfied: kiwisolver>=1.3.1 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib) (1.4.9)
Requirement already satisfied: numpy>=1.23 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib) (2.3.5)
Requirement already satisfied: packaging>=20.0 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib) (25.0)
Requirement already satisfied: pillow>=8 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib) (12.0.0)
Requirement already satisfied: pyparsing>=2.3.1 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib) (3.2.5)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib) (2.9.0.post0)
Requirement already satisfied: six>=1.5 in c:\users\cjohn\anaconda3\lib\site-packages (from python-dateutil>=2.7->matplotlib) (1.17.0)
PS E:\AI&ML PROJECT>
```

27:12 CRLF UTF-8 4 spaces Python 3.14

Type “pip install pickle-mixin” and enter.

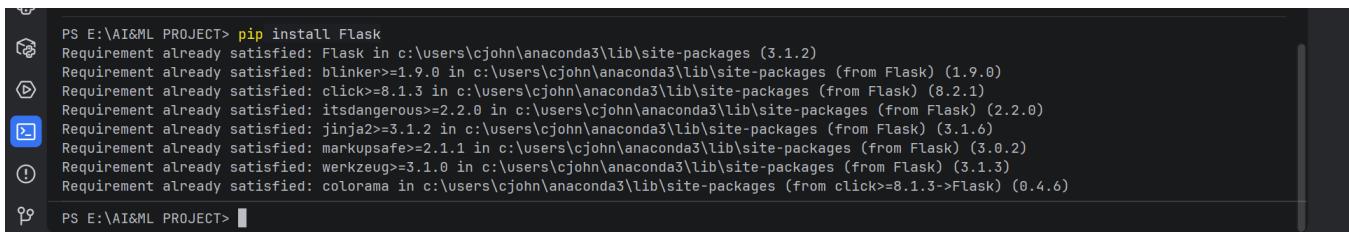
```
PS E:\AI&ML PROJECT> pip install pickle-mixin
Requirement already satisfied: pickle-mixin in c:\users\cjohn\anaconda3\lib\site-packages (1.0.2)
PS E:\AI&ML PROJECT>
```

Type “pip install seaborn” and enter.

```
PS E:\AI&ML PROJECT> pip install seaborn
Requirement already satisfied: seaborn in c:\users\cjohn\anaconda3\lib\site-packages (0.13.2)
Requirement already satisfied: numpy!=1.24.0,>=1.20 in c:\users\cjohn\anaconda3\lib\site-packages (from seaborn) (2.3.5)
Requirement already satisfied: pandas>=1.2 in c:\users\cjohn\anaconda3\lib\site-packages (from seaborn) (2.3.3)
Requirement already satisfied: matplotlib!=3.6.1,>=3.4 in c:\users\cjohn\anaconda3\lib\site-packages (from seaborn) (3.10.6)
Requirement already satisfied: contourpy>=1.0.1 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (1.3.3)
Requirement already satisfied: cycler>=0.10 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (4.60.1)
Requirement already satisfied: kiwisolver>=1.3.1 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (1.4.9)
Requirement already satisfied: packaging>=20.0 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (25.0)
Requirement already satisfied: pillow>=8 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (12.0.0)
Requirement already satisfied: pyparsing>=2.3.1 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (3.2.5)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\cjohn\anaconda3\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in c:\users\cjohn\anaconda3\lib\site-packages (from pandas>=1.2->seaborn) (2025.2)
Requirement already satisfied: tzdata>=2022.7 in c:\users\cjohn\anaconda3\lib\site-packages (from pandas>=1.2->seaborn) (2025.2)
Requirement already satisfied: six>=1.5 in c:\users\cjohn\anaconda3\lib\site-packages (from python-dateutil>=2.7->matplotlib!=3.6.1,>=3.4->seaborn) (1.17.0)
PS E:\AI&ML PROJECT>
```

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Type “`pip install Flask`” and enter:



```
PS E:\AI&ML PROJECT> pip install Flask
Requirement already satisfied: Flask in c:\users\cjohn\anaconda3\lib\site-packages (3.1.2)
Requirement already satisfied: blinker>=1.9.0 in c:\users\cjohn\anaconda3\lib\site-packages (from Flask) (1.9.0)
Requirement already satisfied: click>=8.1.3 in c:\users\cjohn\anaconda3\lib\site-packages (from Flask) (8.2.1)
Requirement already satisfied: itsdangerous>=2.2.0 in c:\users\cjohn\anaconda3\lib\site-packages (from Flask) (2.2.0)
Requirement already satisfied: jinja2>=3.1.2 in c:\users\cjohn\anaconda3\lib\site-packages (from Flask) (3.1.6)
Requirement already satisfied: markupsafe>=2.1.1 in c:\users\cjohn\anaconda3\lib\site-packages (from Flask) (3.0.2)
Requirement already satisfied: werkzeug>=3.1.0 in c:\users\cjohn\anaconda3\lib\site-packages (from Flask) (3.1.3)
Requirement already satisfied: colorama in c:\users\cjohn\anaconda3\lib\site-packages (from click>=8.1.3->Flask) (0.4.6)

PS E:\AI&ML PROJECT>
```

