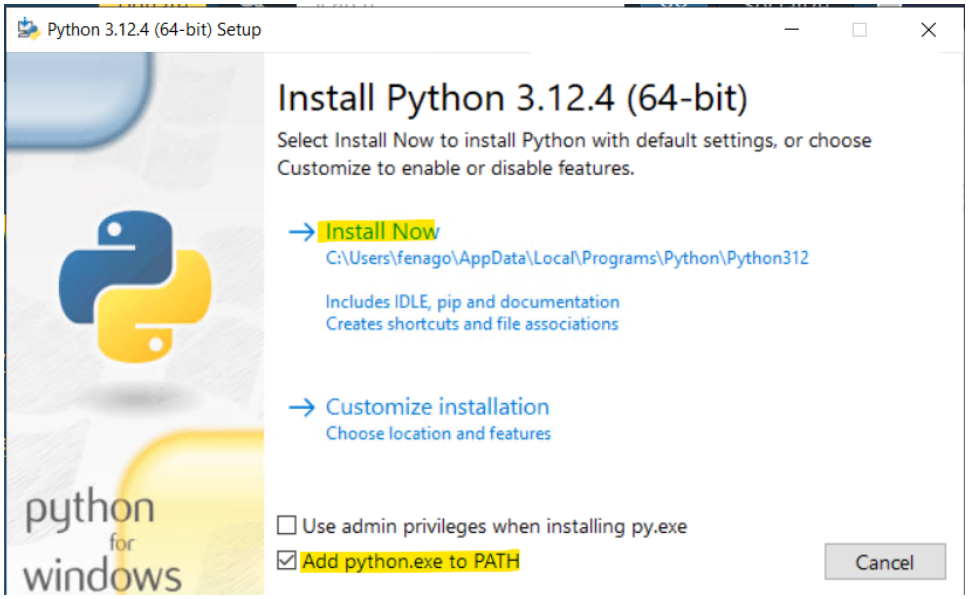
Machine Learning Essentials (TTML5506-P) - Setup Guide (Windows)

Pre-Reqs:

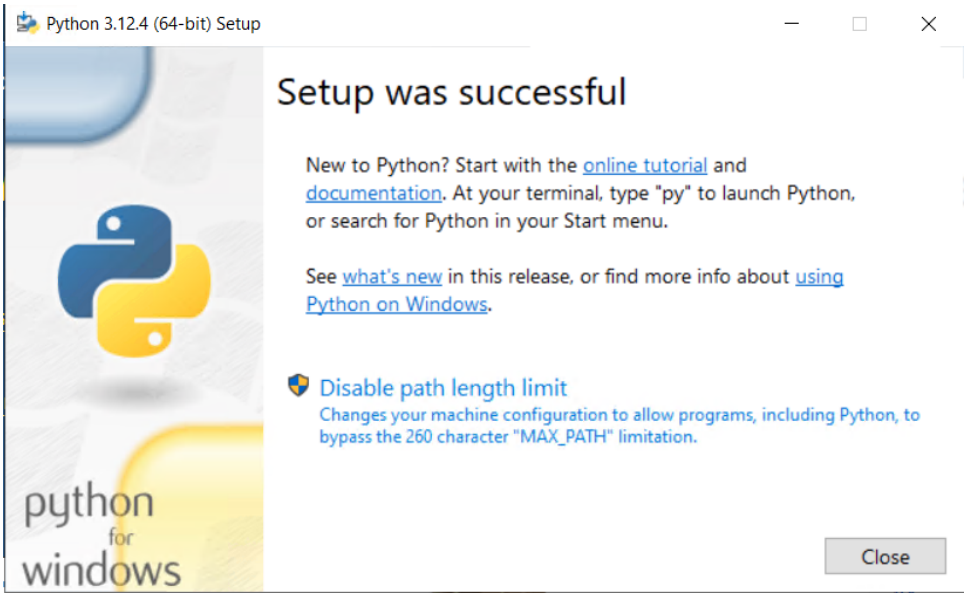
- Windows OS
- Google Chrome (set as default browser)

Step 1: Install Python

1. **Download Python:**
    - Go to the official Python website.
    - Download the latest version of Python.
2. **Install Python:**
    - Run the downloaded installer.
    - Check the box that says "Add Python to PATH".
    - Click on "Install Now".



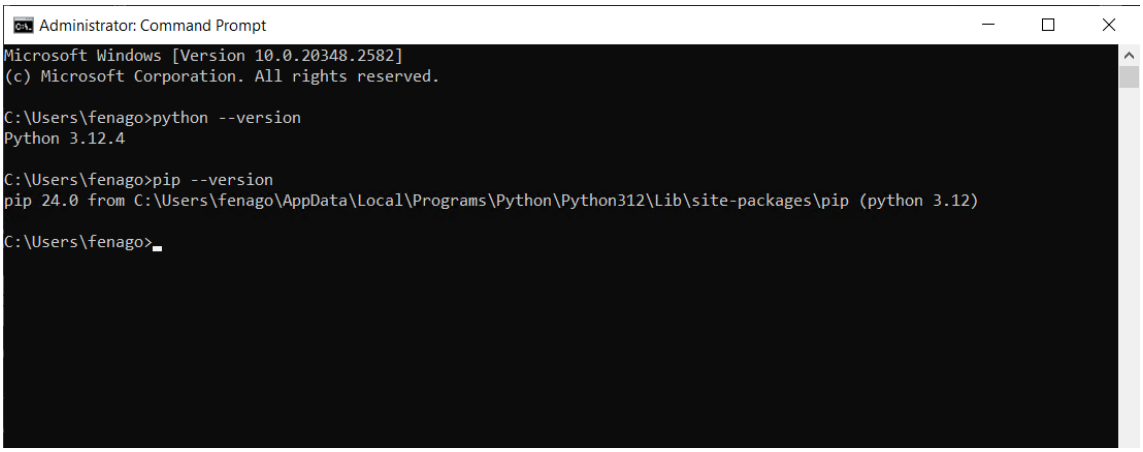
    - Click on "Disable path length limit".



Step 2: Install pip (Python package installer)

Pip should be installed automatically with Python. You can verify by running the following command in Command Prompt:

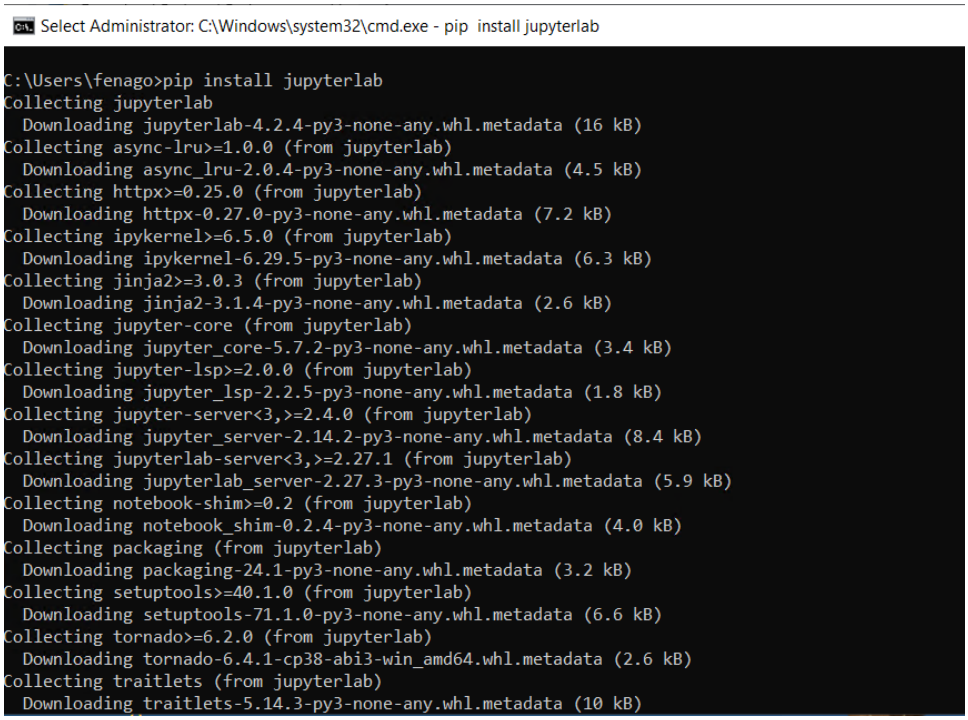
```
python --version

pip --version
```



Step 3: Install Jupyter Notebook

1. **Open Command Prompt:**
   - Press `Win + R`, type `cmd`, and press `Enter`.
2. **Install Jupyter:**
   - Run the following command:

```
pip install jupyterlab
```



Step 4: Install scikit-learn, pandas, and TensorFlow

1. **Install scikit-learn:**
   - Run the following command in Command Prompt:

     ```
     pip install scikit-learn
     ```

2. **Install pandas & numpy:**
   - Run the following command in Command Prompt:

     ```
     pip install pandas numpy
     ```

3. **Install TensorFlow:**
   - Run the following command in Command Prompt:

     ```
     pip install tensorflow
     ```

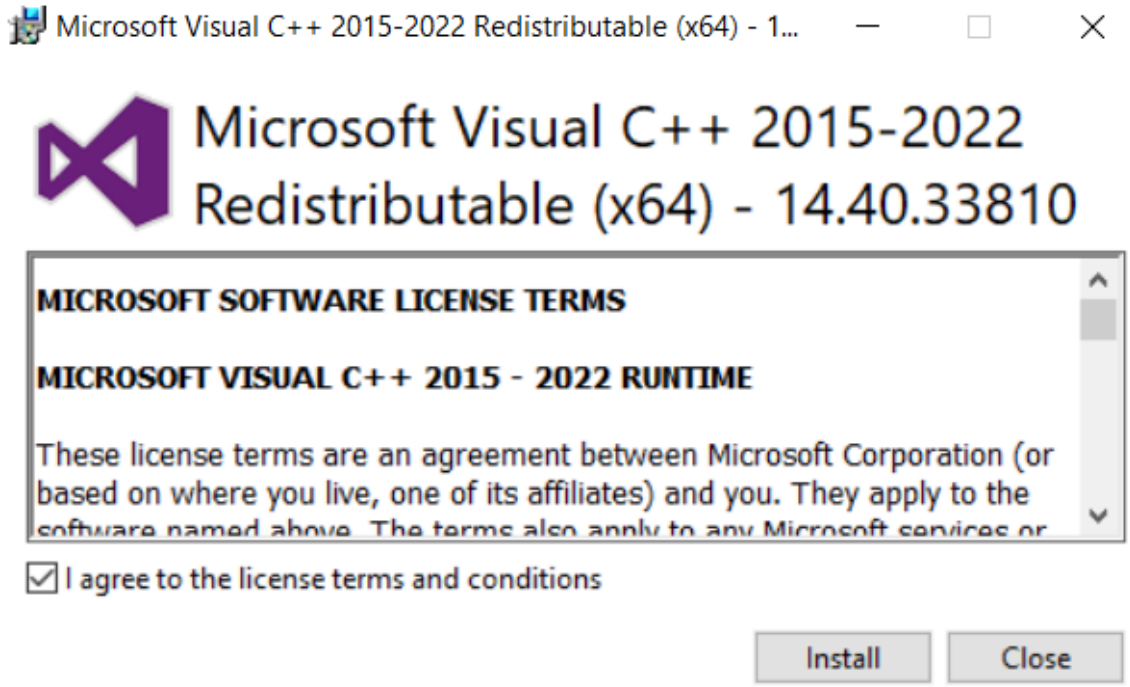
Step 5: Install Microsoft Visual C++ Redistributable

You can get download link from here:

`https://learn.microsoft.com/en-us/cpp/windows/latest-supported-vc-redist?view=msvc-170`

If you have "X64" Architecture, you can download this directly:

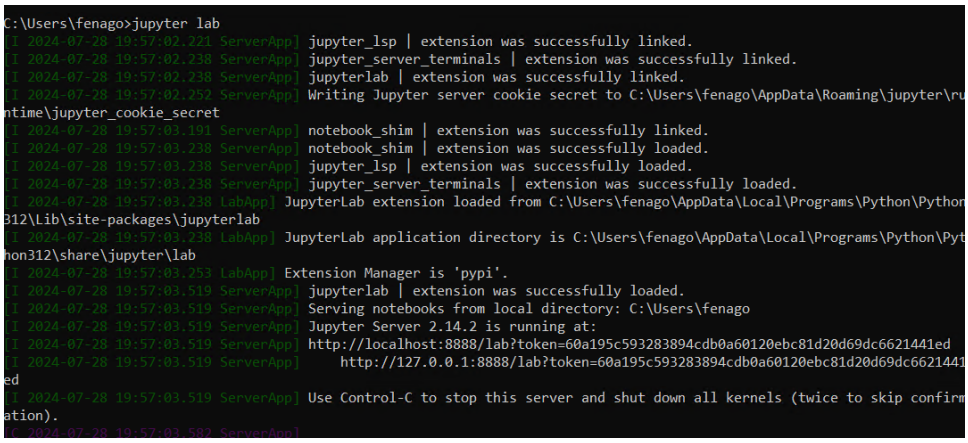
```
https://aka.ms/vs/17/release/vc_redist.x64.exe
```



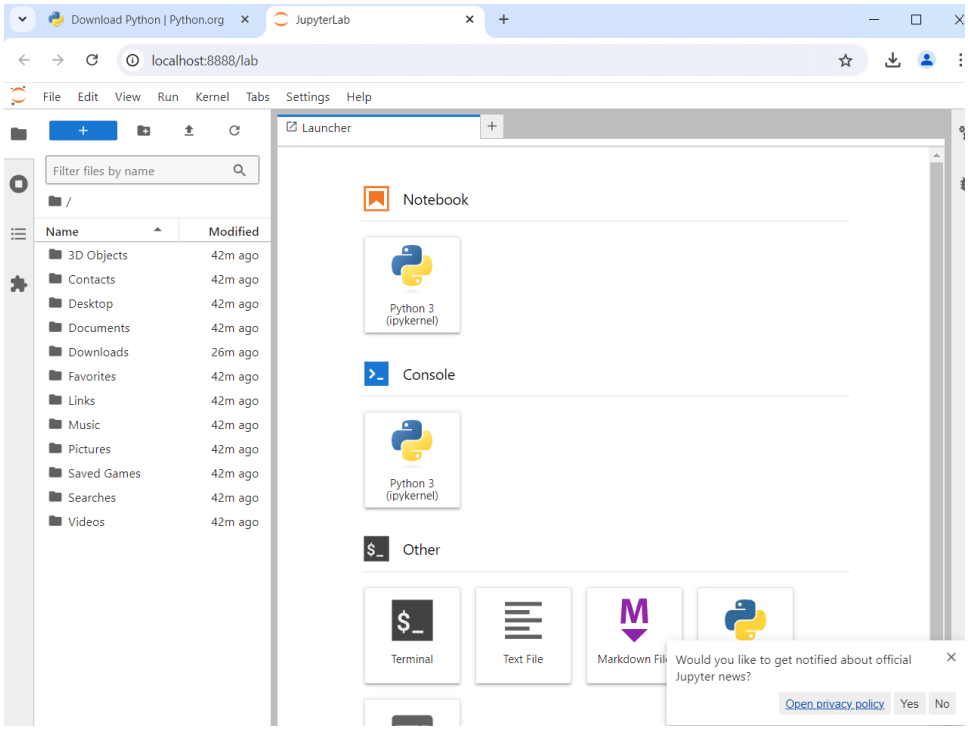
Step 6: Verify Installation

1. **Launch Jupyter Lab:**
   - In Command Prompt, run:

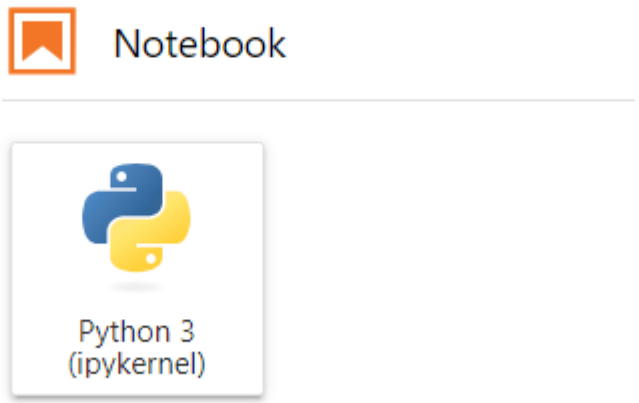
     ```
     jupyter lab
     ```

   - This will open Jupyter Lab in your default web browser.



2. **Create a new Notebook:**
    - Click on "Python 3".

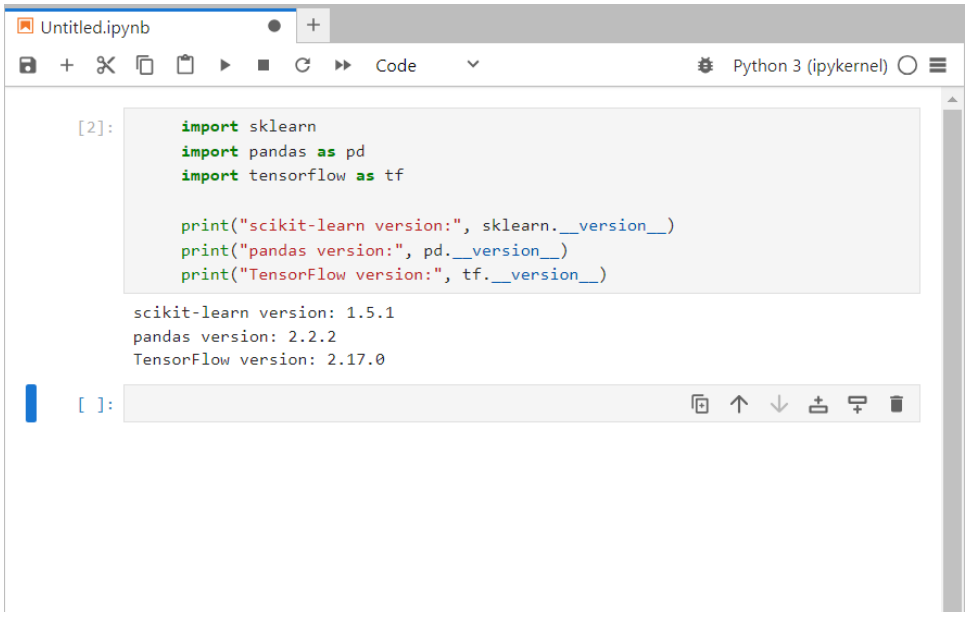


3. **Test the Libraries:**
    - In the new notebook, enter the following code to verify the installations:

```
import sklearn
import pandas as pd
import tensorflow as tf
```

```
print("scikit-learn version:", sklearn.__version__)
print("pandas version:", pd.__version__)
print("TensorFlow version:", tf.__version__)
```

- Run the cell. You should see the versions of scikit-learn, pandas, and TensorFlow printed out.



Additional Steps (Optional)

4. **Upgrade pip:**
   - You can upgrade pip to the latest version by running:

```
pip install --upgrade pip
```

Troubleshooting

- If you encounter any issues with the installations, make sure your Command Prompt is run as an administrator.
- Ensure that Python and pip are added to your system PATH:
- Add Python and pip to PATH:
  - In the Edit Environment Variable window, click on New and add the path to your Python installation directory. This is usually `C:\Python3(Version)` or `C:\Users\<YourUsername>\AppData\Local\Programs\Python\Python3(Version)` depending on your installation.
  - Add another new entry for the Scripts directory inside your Python installation directory. This is usually C:\Python3(Version)\Scripts or `C:\Users\<YourUsername>\AppData\Local\Programs\Python\Python3(Version)\Scripts`.