Installation Guide for CESS Introduction to Large Language Models (LLMs)

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Table of Contents

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1. Installation on Windows

1.1. Installing Anaconda Navigator on Windows

- First, download the Anaconda Navigator through this link: https://www.anaconda.com/download/success
- **Ctrl + left click** on the hyperlink above.
- Then, you will see the page similar to the one in Figure 1 on your browser.
- **Click on Download.**
- The Anaconda Navigator will be downloaded to your machine.

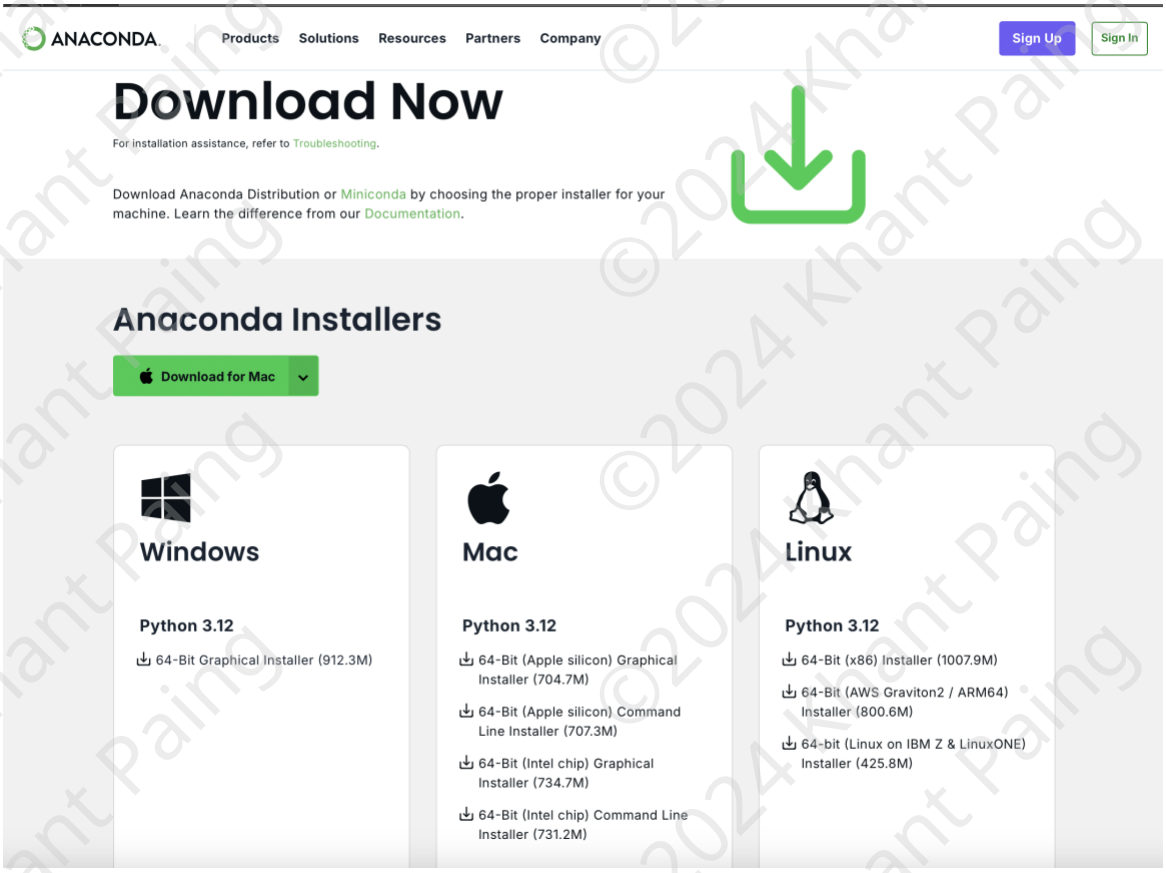


Figure 1: Anaconda website

- Normally, Anaconda Navigator application file should be downloaded to the **downloads** folder on your machine.
- **Click on File Explorer**, **navigate to downloads**, and you should see the downloaded Anaconda Navigator application file there. (Figure 2)

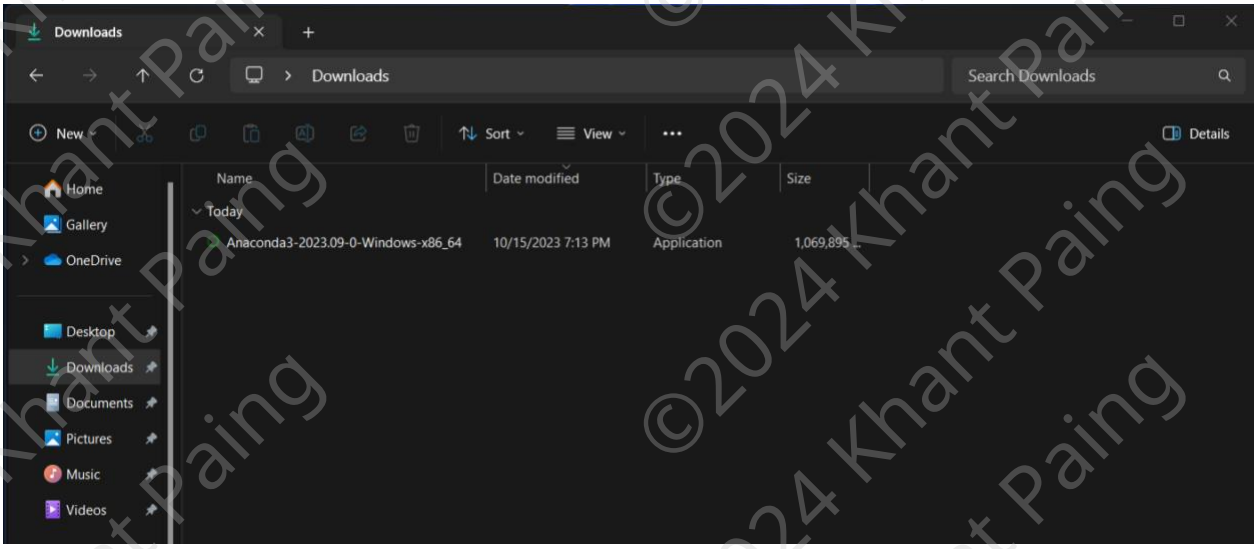


Figure 2: Downloaded Anaconda Navigation application file in downloads folder on Windows.

- **Double click on the application file**.
- You should see the installation pop-up screen as in Figure 3.

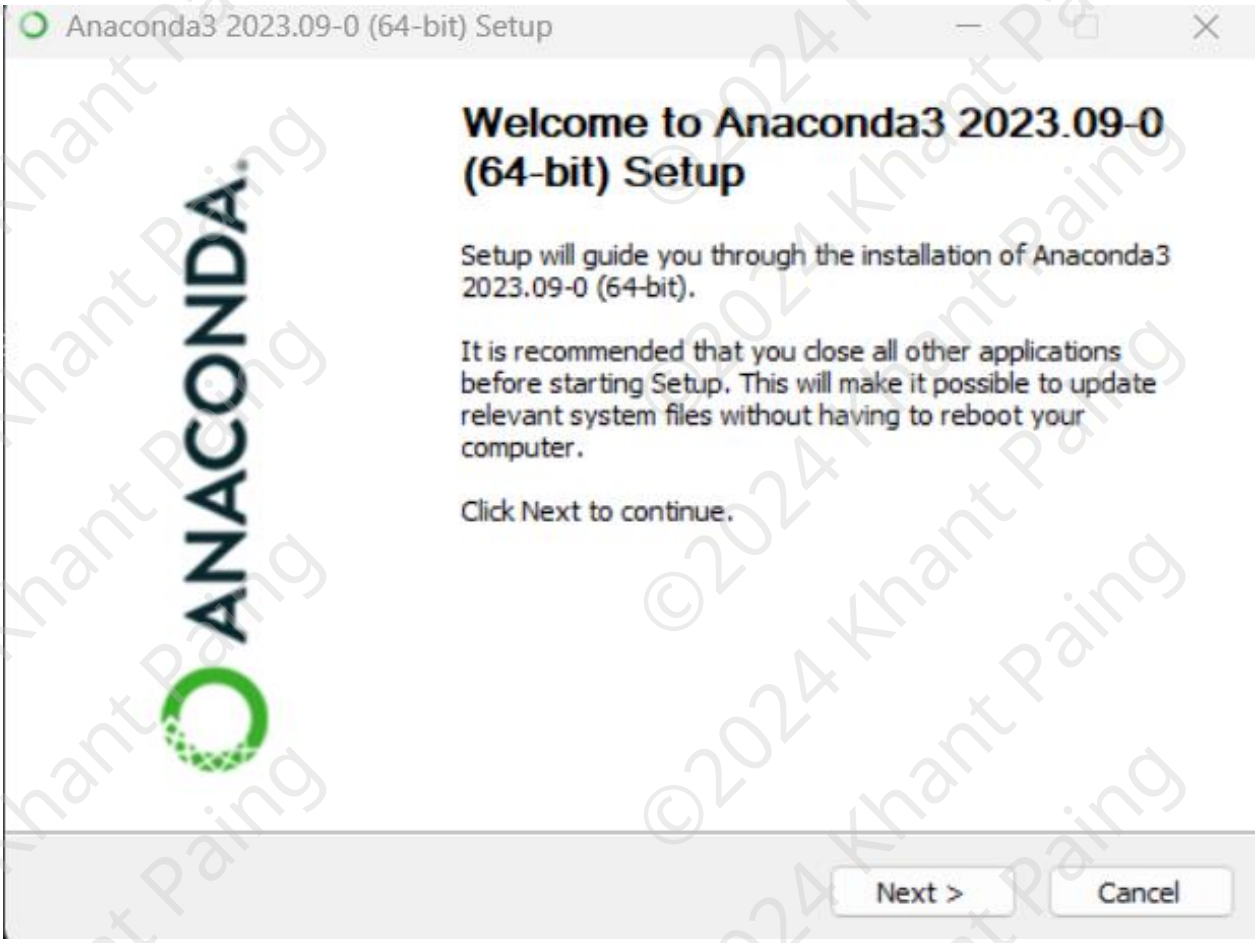


Figure 3: Navigator installation pop up screen

- Click on **Next**

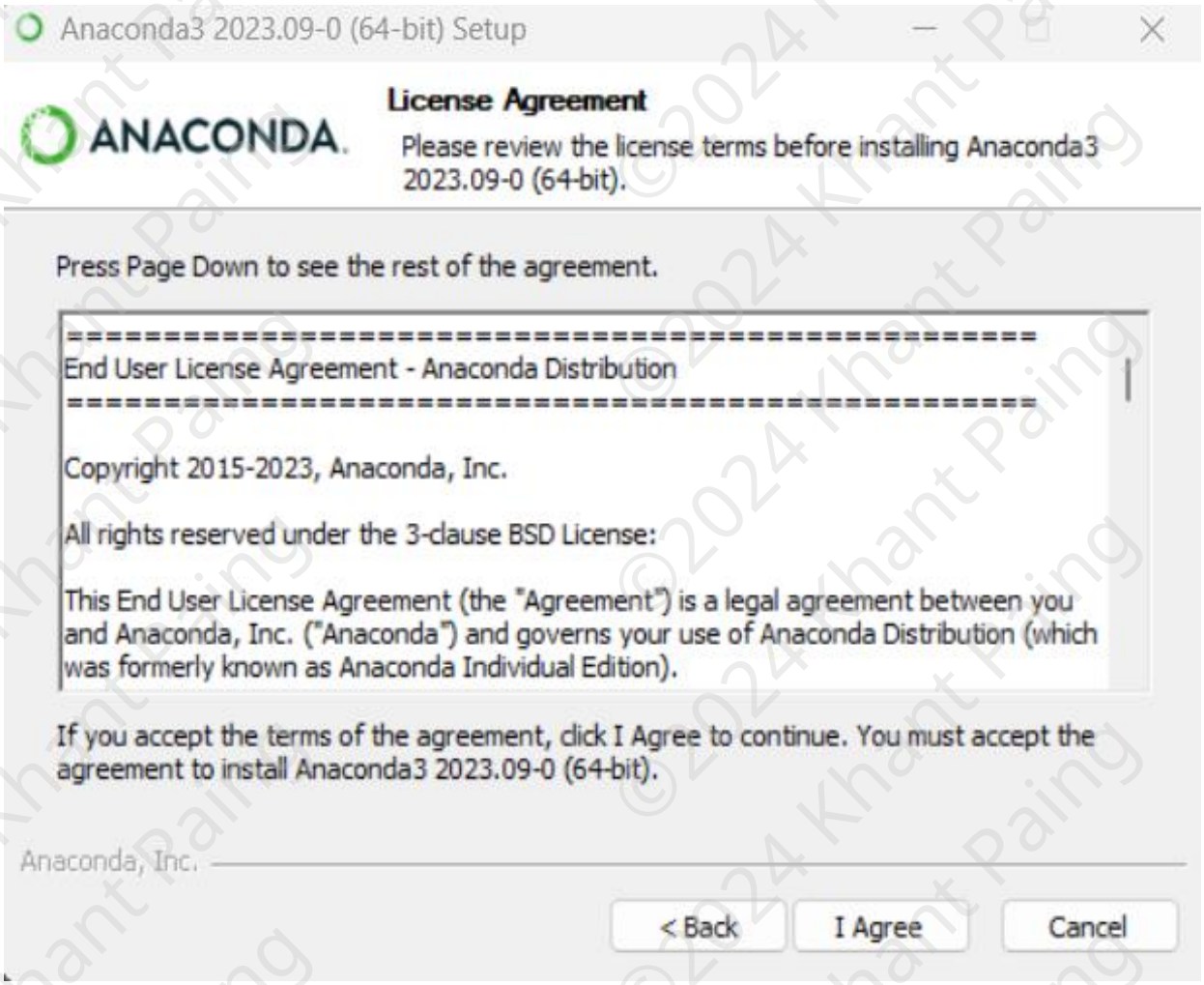


Figure 4: Anaconda Navigator license agreement screen

- Click on **I agree** (Figure 4)

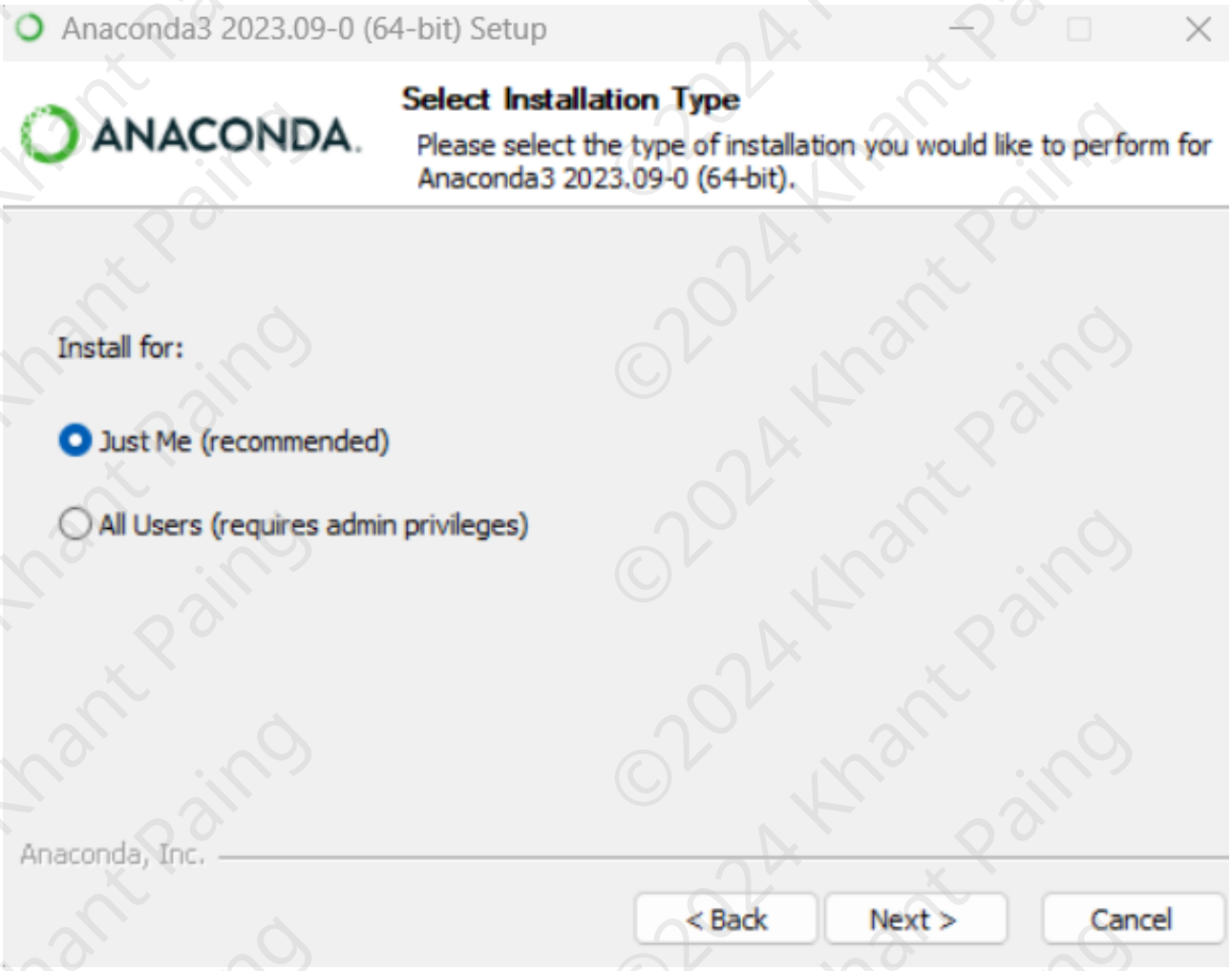


Figure 5: Installation type screen

- Leave it as Just me, and click **Next**. (Figure 5)

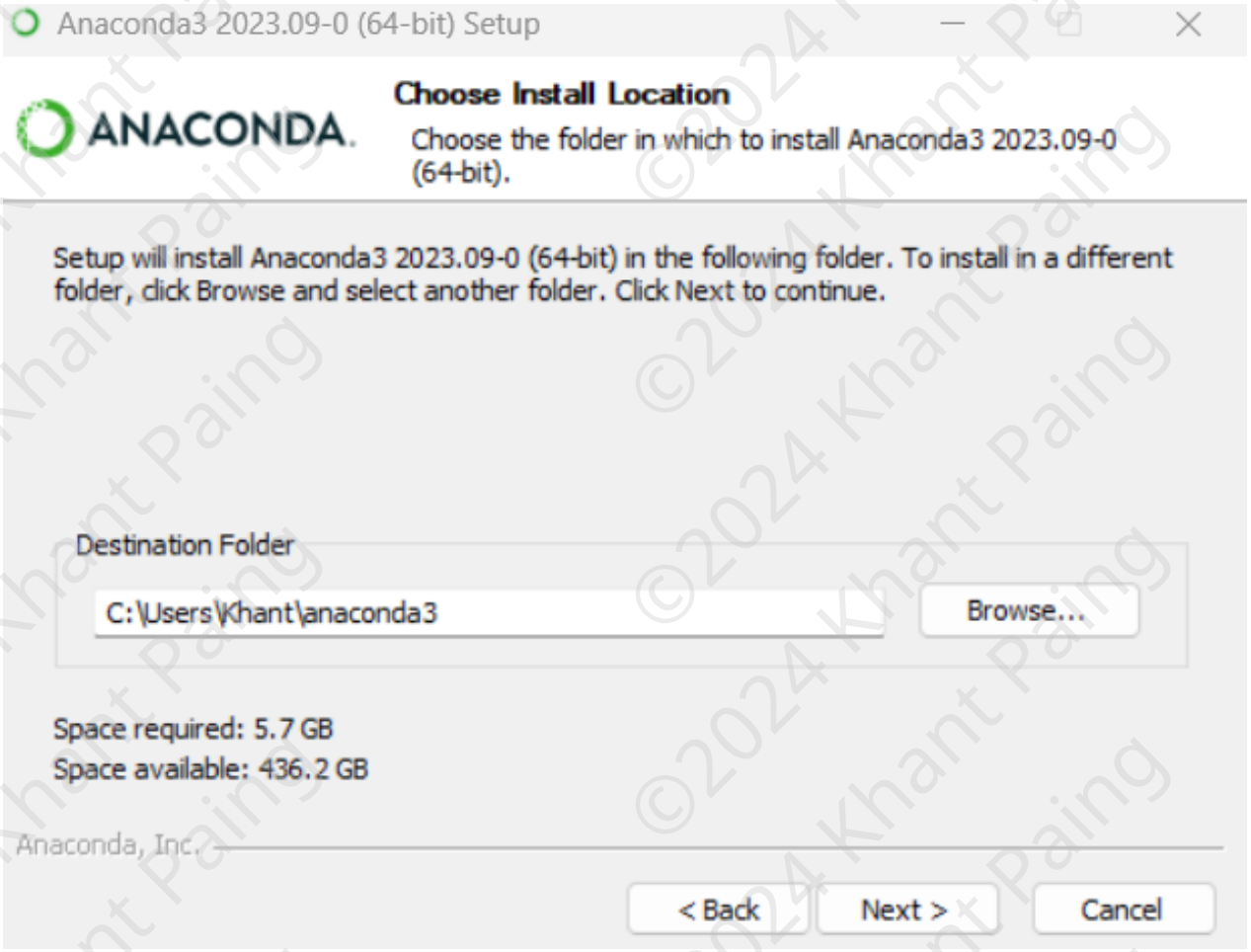


Figure 6: Application install location screen

- Click **Next** (Figure 6)

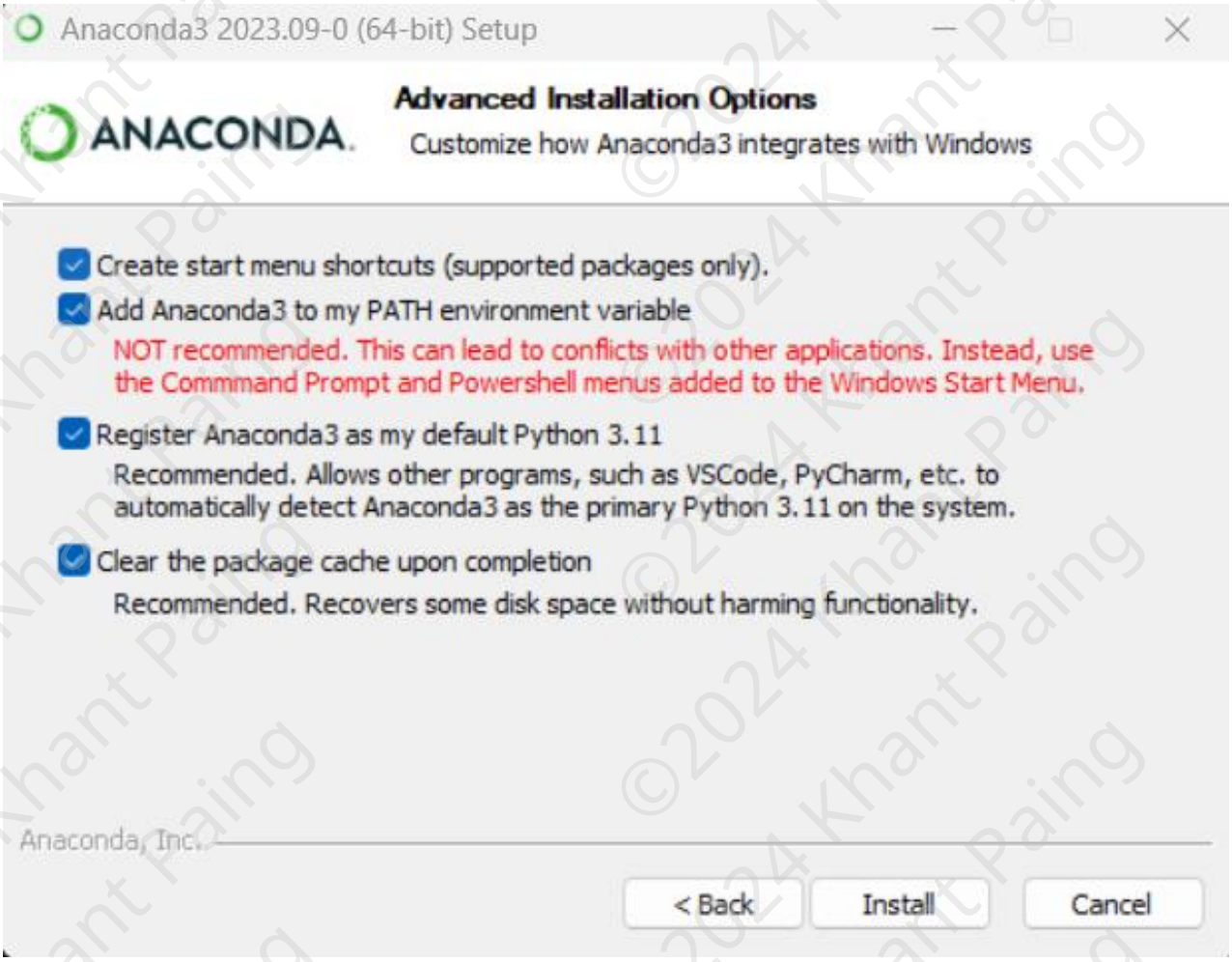


Figure 7: Advanced options for installation screen

- **Check everything** as in Figure 7 (please ignore NOT recommended warning).
- Then, click on **Install** button. This might take a while.

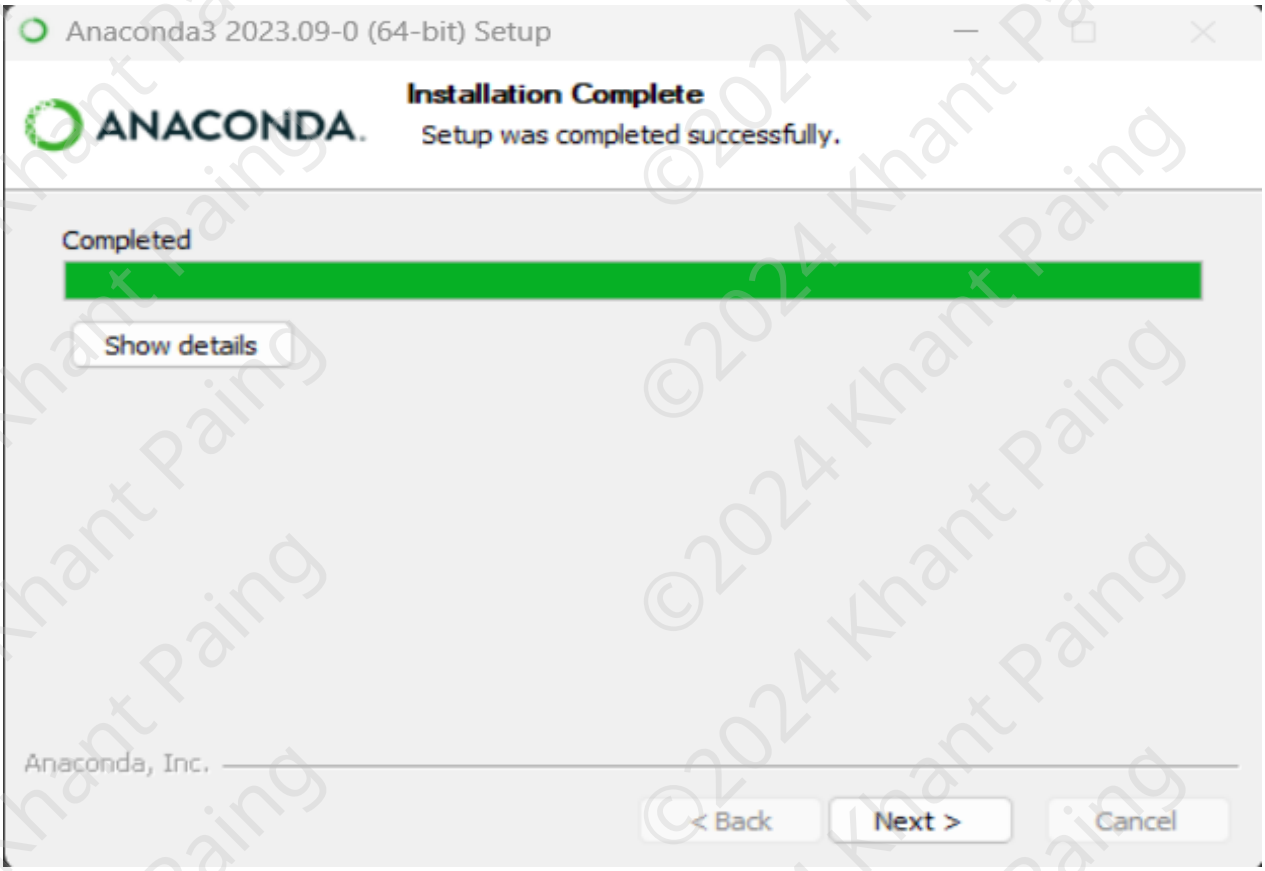


Figure 8: Installation completion screen

- Click **Next**

Figure 9: Anaconda Jupyter notebook advertisement screen

- Again, click **Next** (Figure 9)

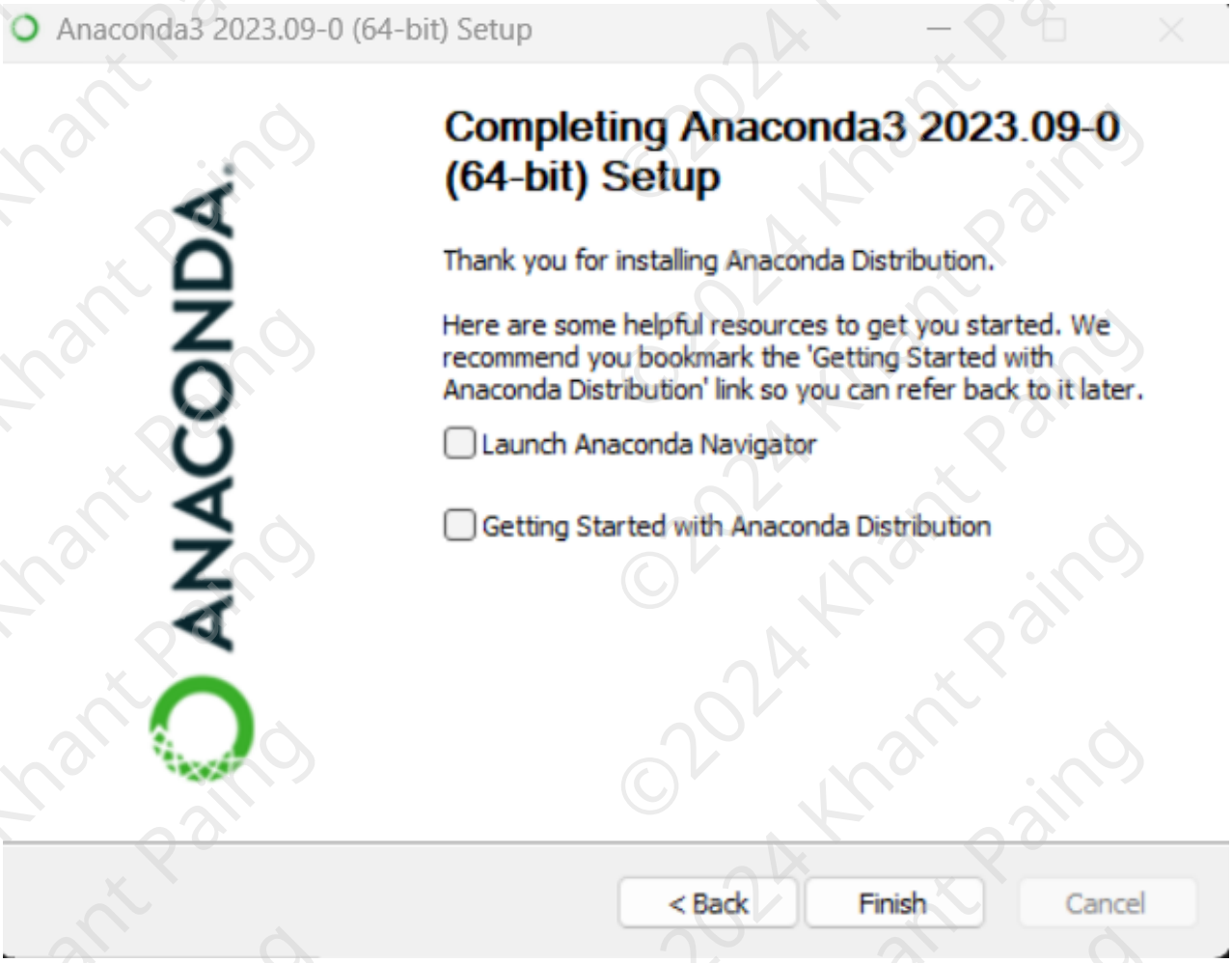


Figure 10: End of installing Anaconda Navigator

- **Uncheck everything**, and click **Finish** (Figure 10)
- Great job. You have successfully installed Anaconda Navigator which includes **Python 3.11.5** installed.
- **Done**

2.2. Installing Visual Studio Code (VSCode) on Windows

- To download VSCode, visit their website (Figure 13) by following the link: https://code.visualstudio.com/Download
- Then click **Download** button.

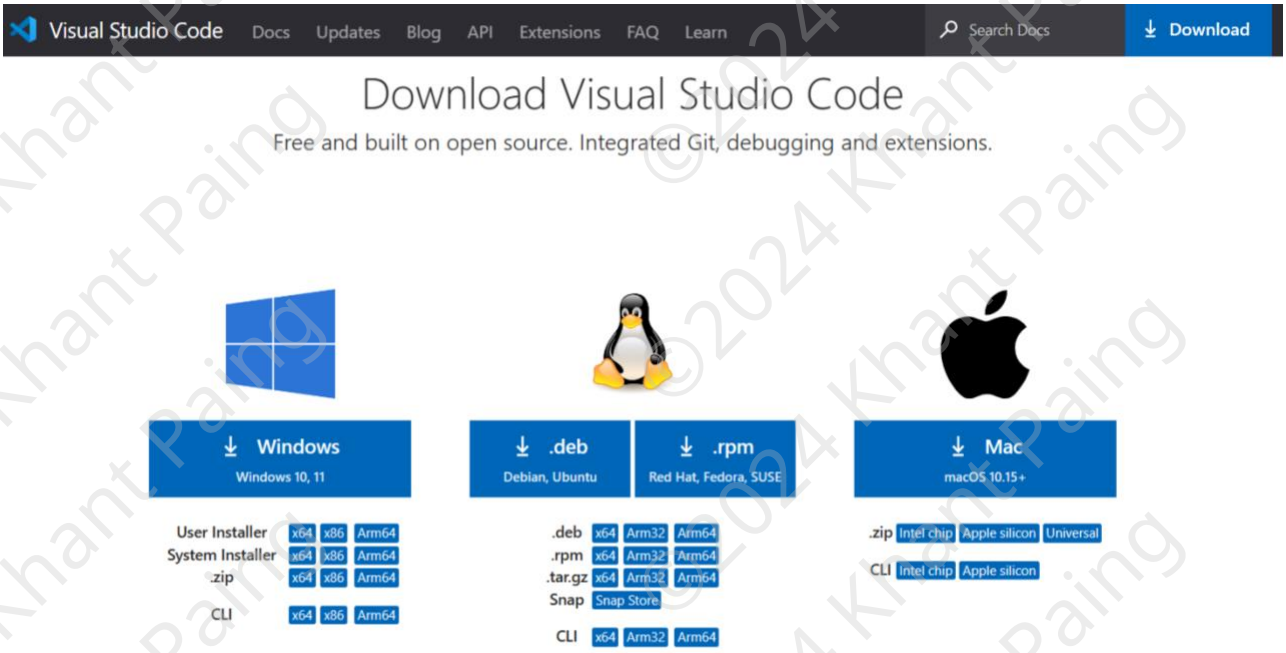


Figure 13: Visual Studio Code website download page

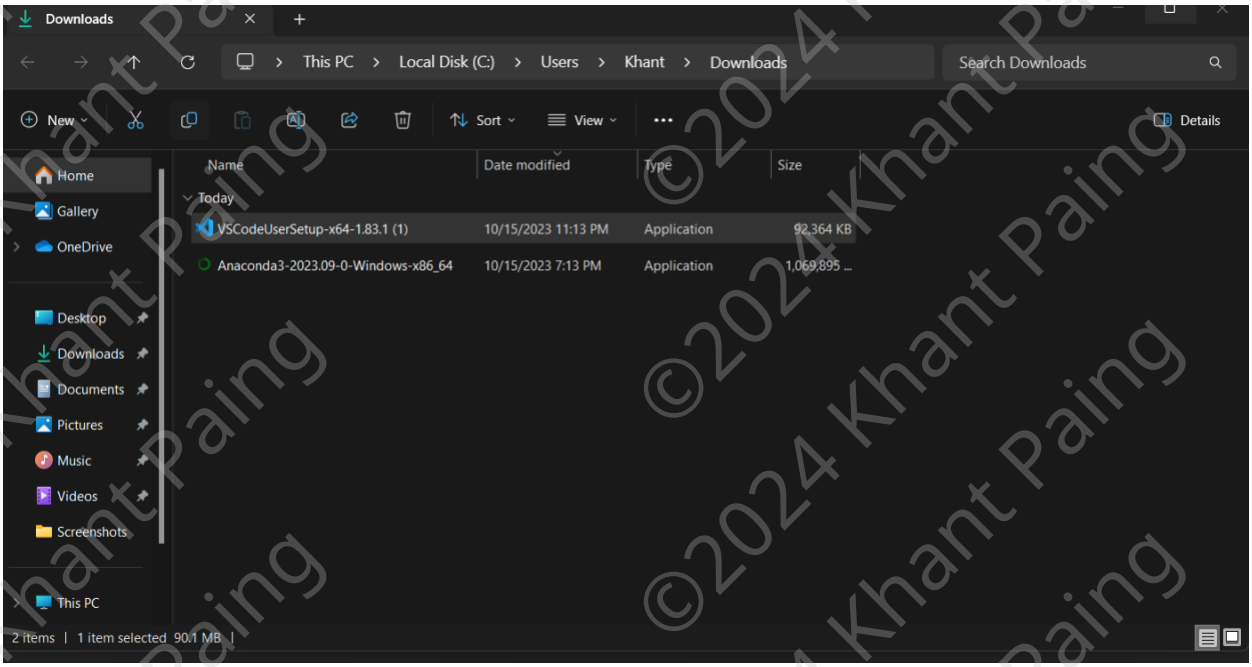


Figure 14: Screenshot of VSCode application in download folder

- **Double-click the application** to install as shown in Figure 14.

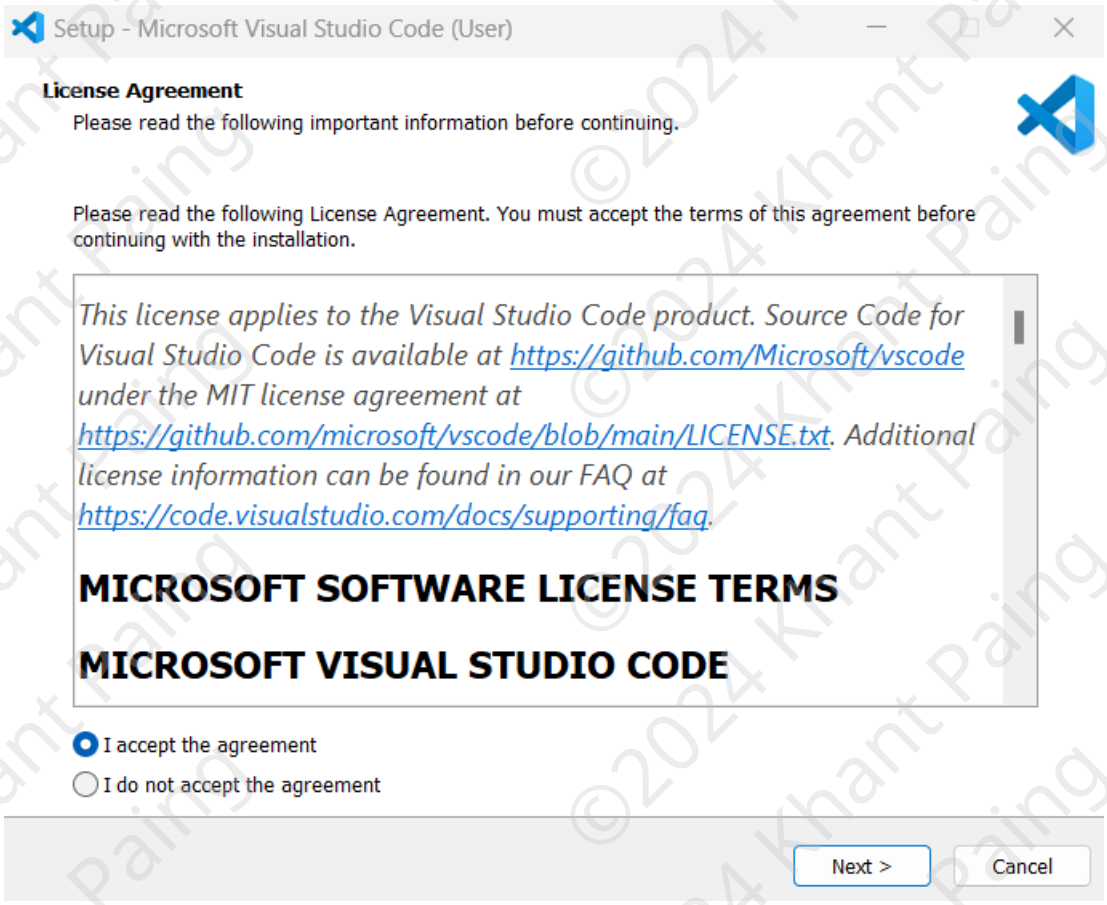


Figure 15: VSCode License agreement screen

- Choose **"I accept the agreement"** and click **Next**.

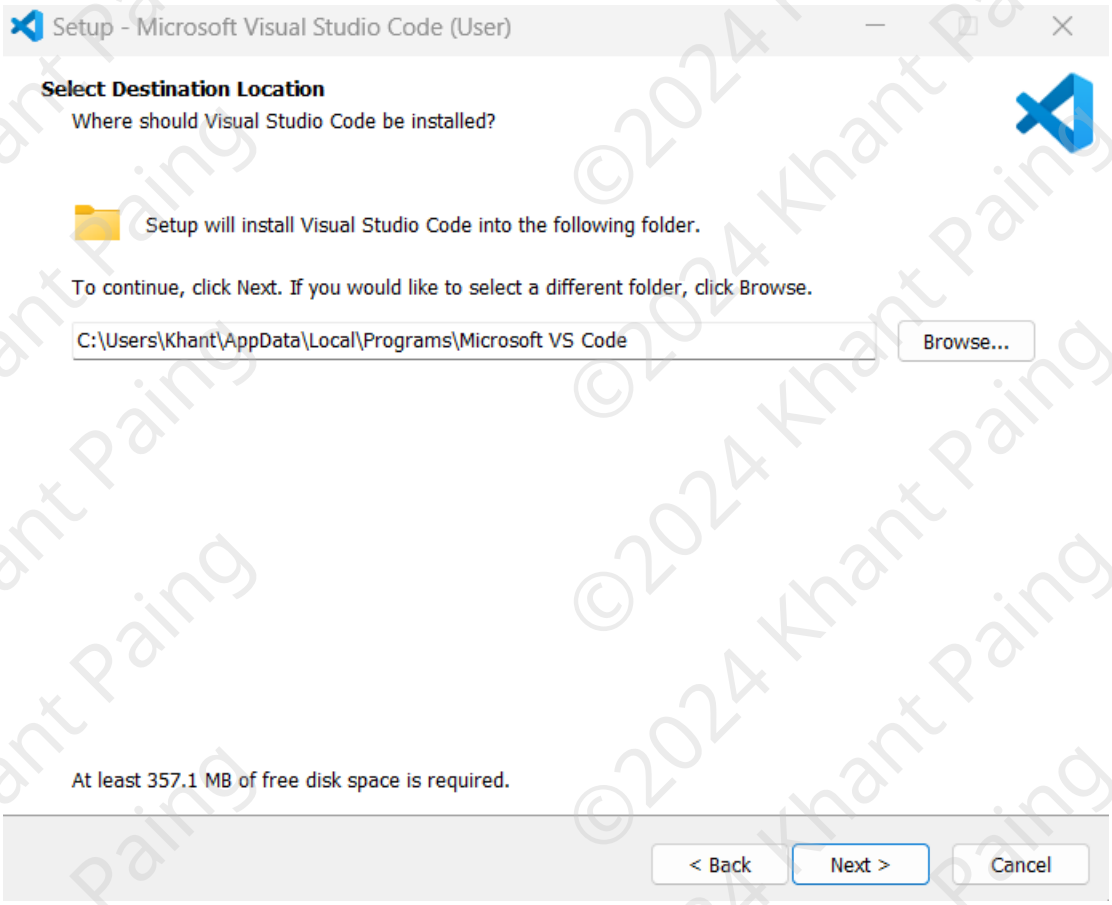


Figure 16: VSCode install location

- Click on **Next**.

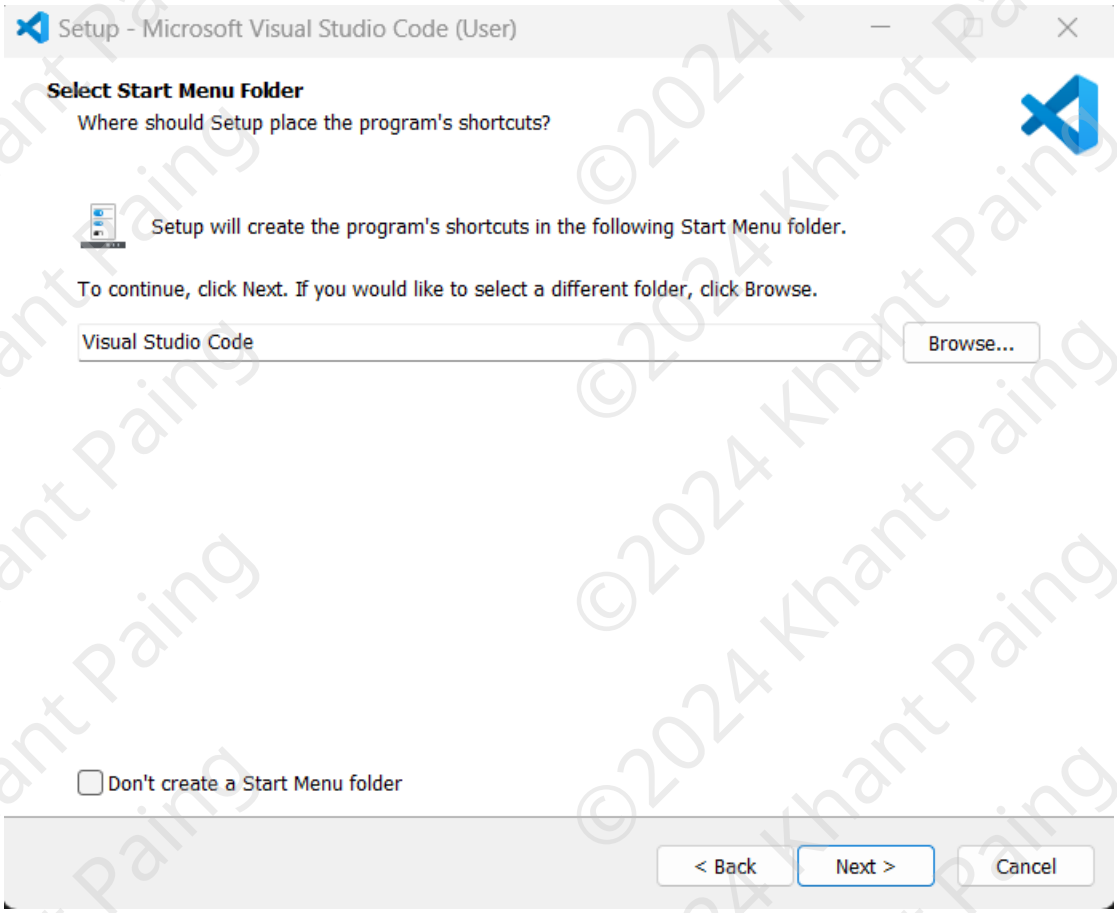


Figure 17: Start menu folder selection

- No need to change anything. Just click **Next**.

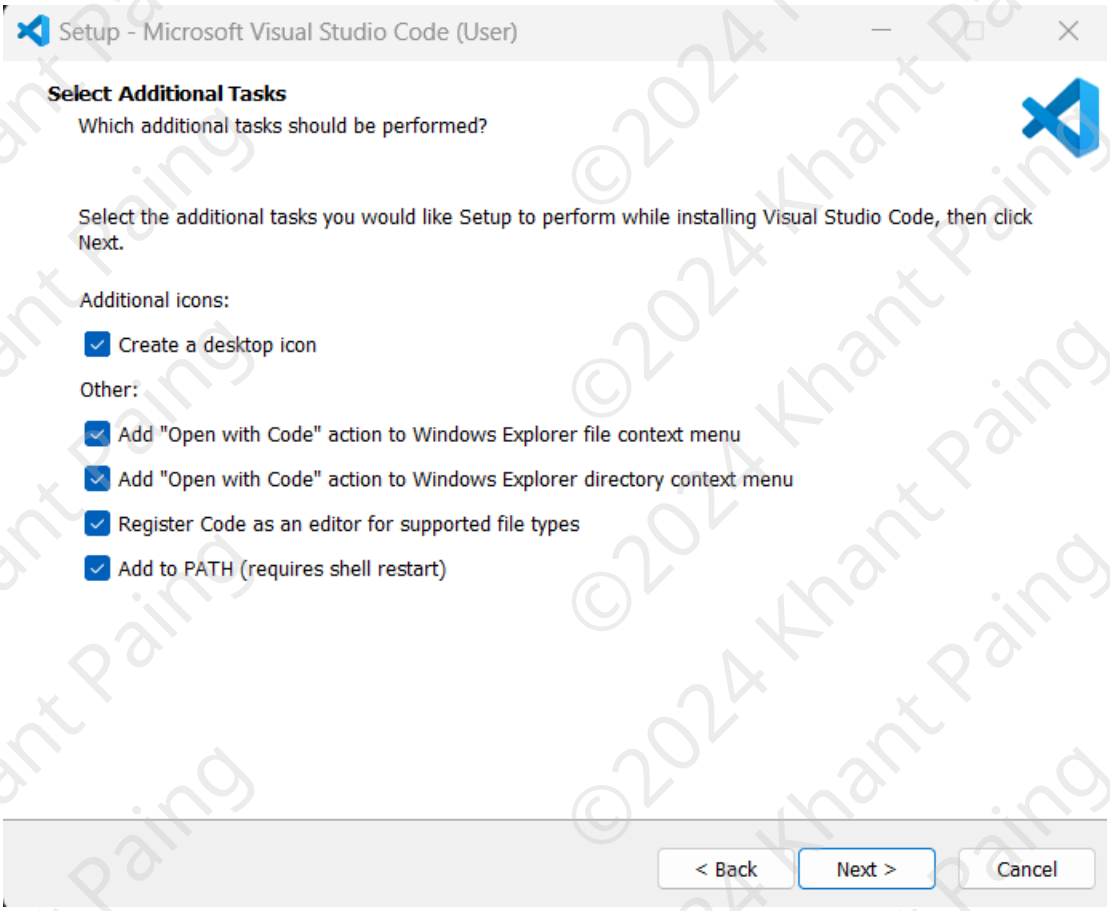


Figure 18: Additional options

- **Select everything**, and click **Next**.

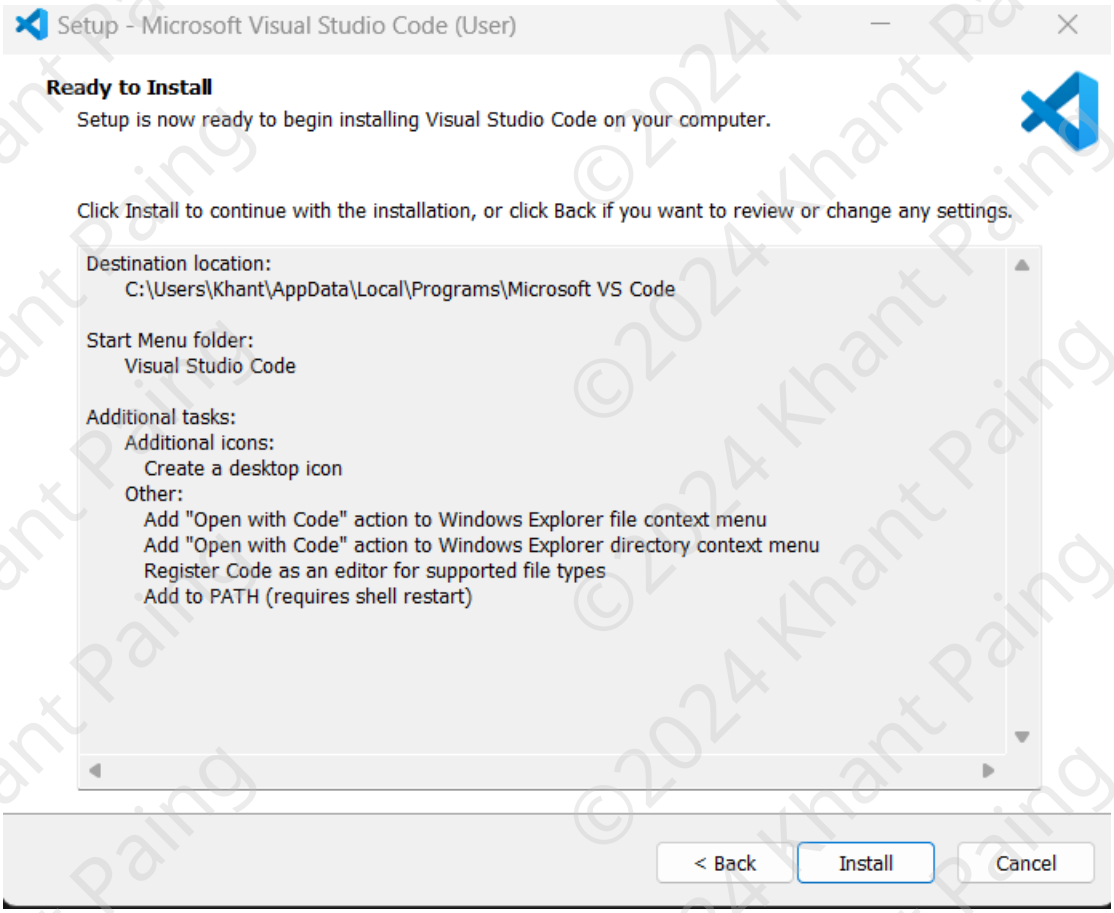


Figure 19: Installation

- Click on **Install**.

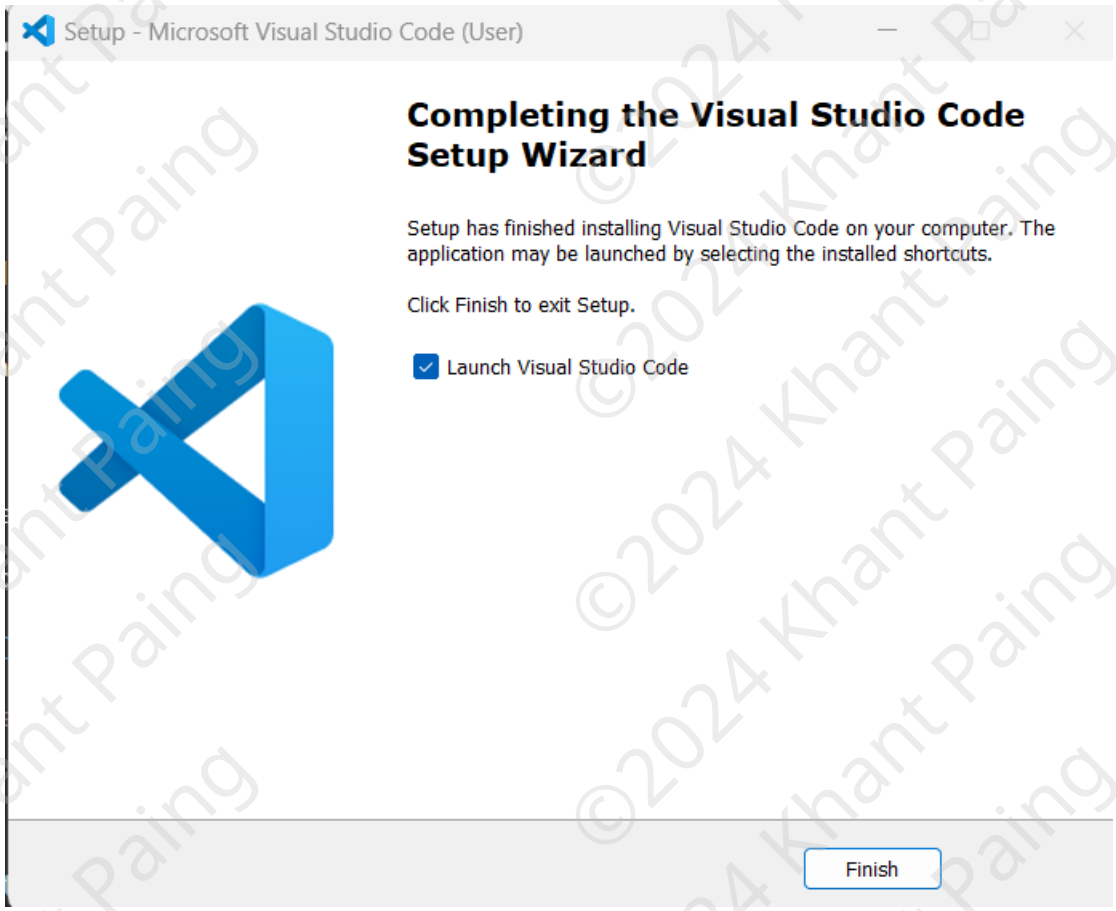
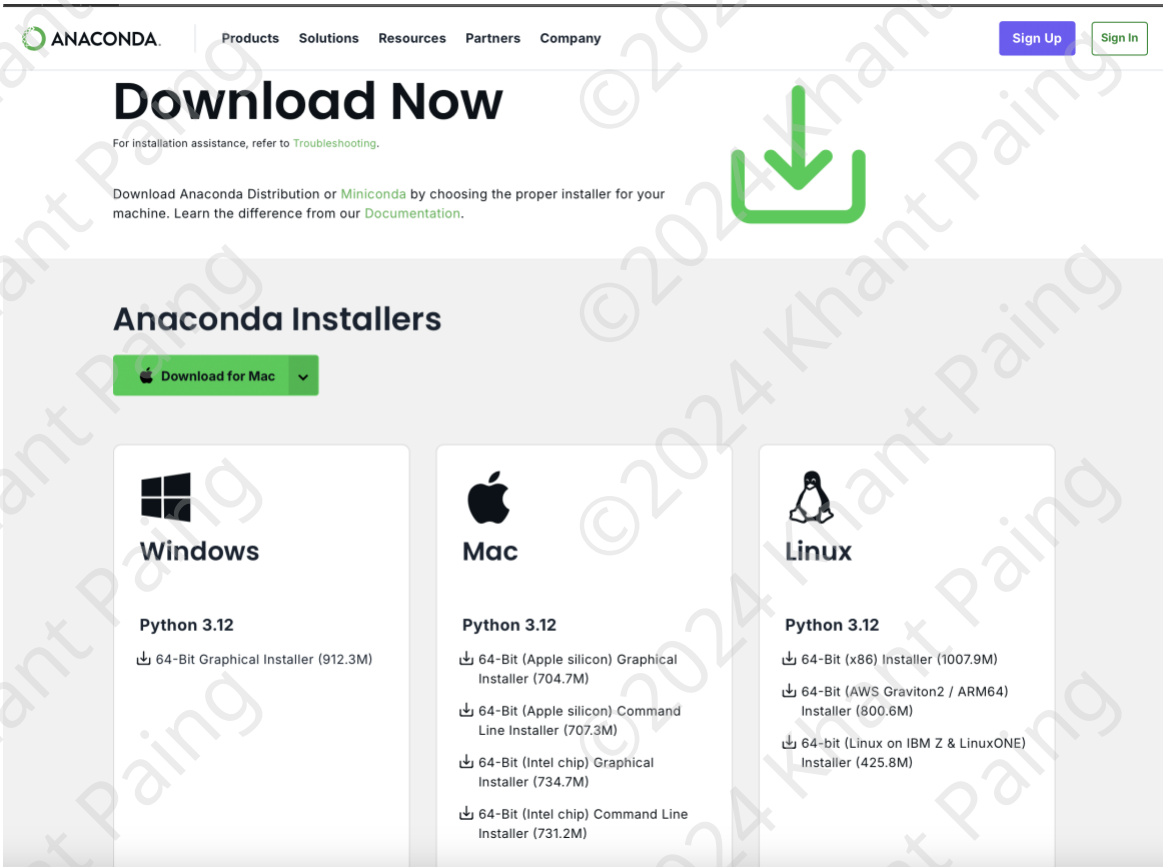


Figure 20: End of installation

- Click **Finish** and **launch the VSCode** to install essential Python Extensions for our tutorial.
- Windows users can jump straight to **Section 4, Installing Python extensions on VSCode**.

2. Installation on MacOS

Installing Anaconda Navigator and VSCode on MacOS is pretty straight forward.



2.1. Installing Anaconda Navigator on MacOS

- Go to Anaconda website: https://www.anaconda.com/download/success
- There are **two versions** of Anaconda Navigator for MacOS.
- Choose one **depending on the processor of your machine**.

- If you have the **Intel chip processor**, select the one for Intel chip, and download.
- If your machine has the newer **apple chip**, the **M-series processor**, select the one for apple chip.
- In Finder, navigate to downloads folder, then double click to install the software.
- There's nothing to be changed for the installation on MacOS. Just accept the default configurations in the installer.

2.2. Installing Visual Studio Code (VSCode) on MacOS

- Go to the VSCode website: https://code.visualstudio.com/Download
- Same here, there are three versions of VSCode for MacOS.
- If you have **intel chip** on your machine, you can either **download the one for intel** or universal version. But installing the one specified for intel is recommended for intel chip Macs.
- On the other hand, if you have **apple chip** on your machine, **downloading the one for apple chip is recommended**.

However, you can still install universal version on apple chip Macs.

- When you download VSCode on MacOS, the application will be downloaded as a **.zip file**. But once it has been downloaded, **MacOS will automatically extract the .zip file** and you will see the actual software in downloads folder. (If your mac doesn't automatically extract the VSCode .zip file, then simply double click the .zip file and it will be extracted in the same directory).
- Once you see the application, simply **drag and drop it into the Application folder in Finder** of your machine.
- Then, VSCode should be successfully installed on your MacOS.
- Then, **follow the steps in the following sections**.

3. Inspecting the Installed Python

There are two steps to be accomplished for checking the version of Python which you installed through Anaconda in **command prompt on Windows** and in **terminal on MacOS**. The **commands for this task are the same for both Windows and MacOS** with the only difference that MacOS users should enter these commands in the terminal while Windows users enter them in command prompt.

3.1. Activating Base Environment

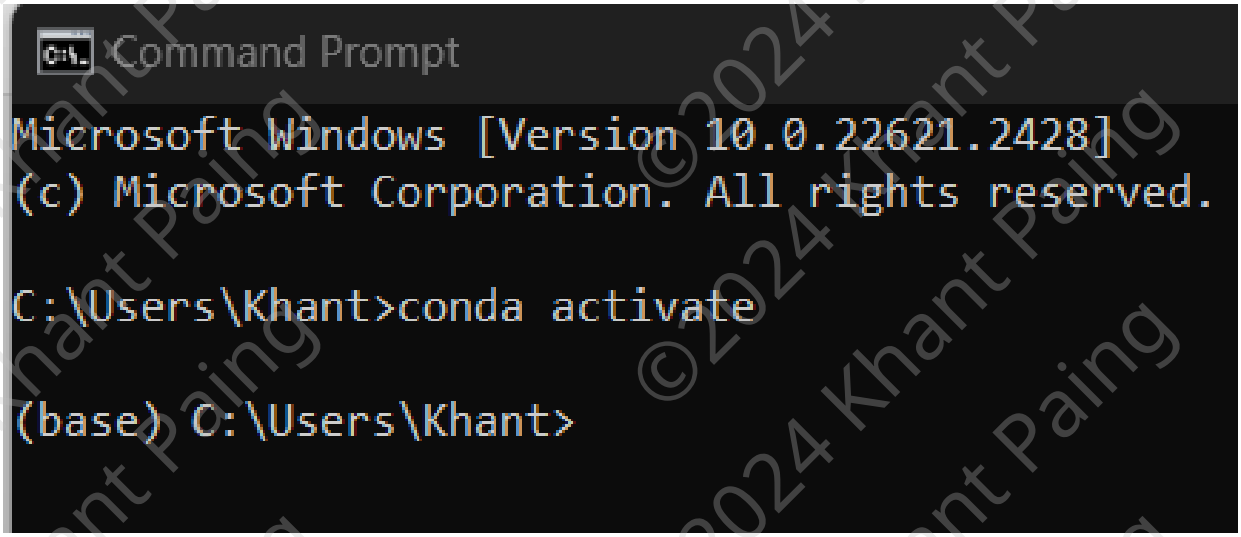


Figure 21: Activating Anaconda base environment in command prompt

(Figure 21) To activate the base environment of the anaconda, **open command prompt** and enter command:

conda activate

3.2. Checking Python Version

Then, simply enter the following command in command prompt:

python --version

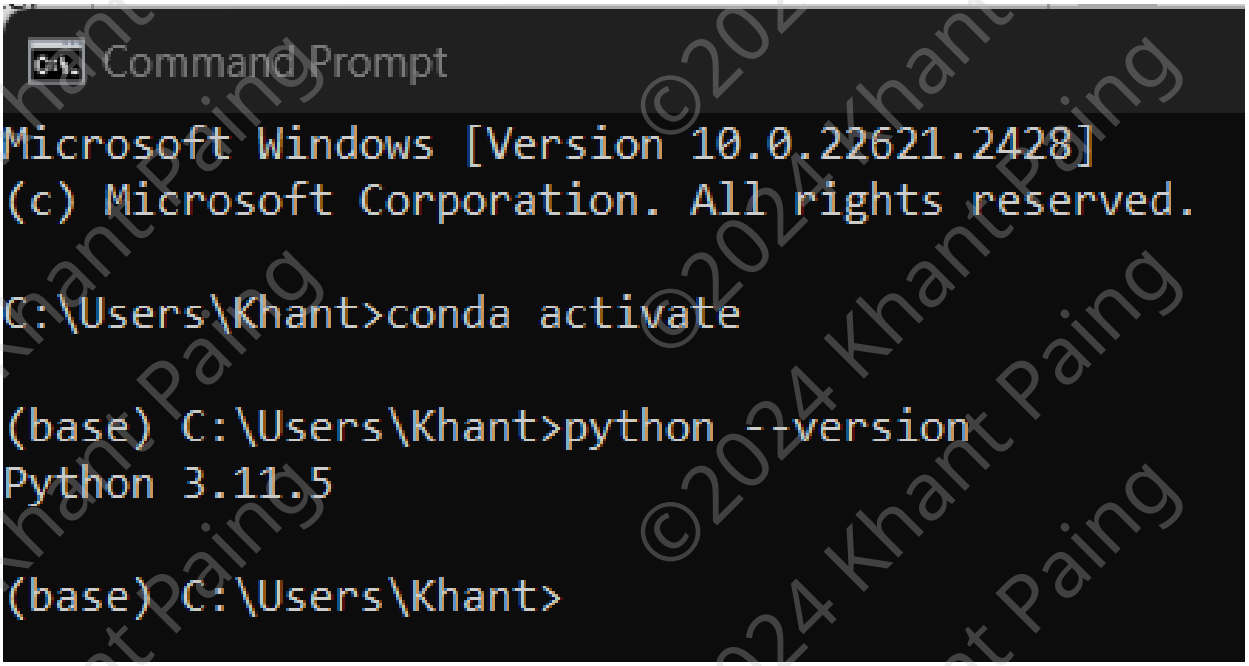


Figure 22: Checking Python version in command prompt

You should be able to see your Python version similar to the one shown in Figure 22. This means you have successfully installed Python on your machine.

3.3. Deactivating Base Environment

To deactivate the base Python environment in your command prompt, enter:

conda deactivate

4. Creating conda virtual environment and installing required Python packages

Creating conda virtual env on both Mac and Windows:

- Launch anaconda navigator,
- Navigate to **environments**,
- **Click create** and you will see "Create new environment" interface as shown in Figure 23.
- Enter "**llm_env**" as the environment name as you can see in the image.
- Select Python version "**3.10.15**" and click Create.

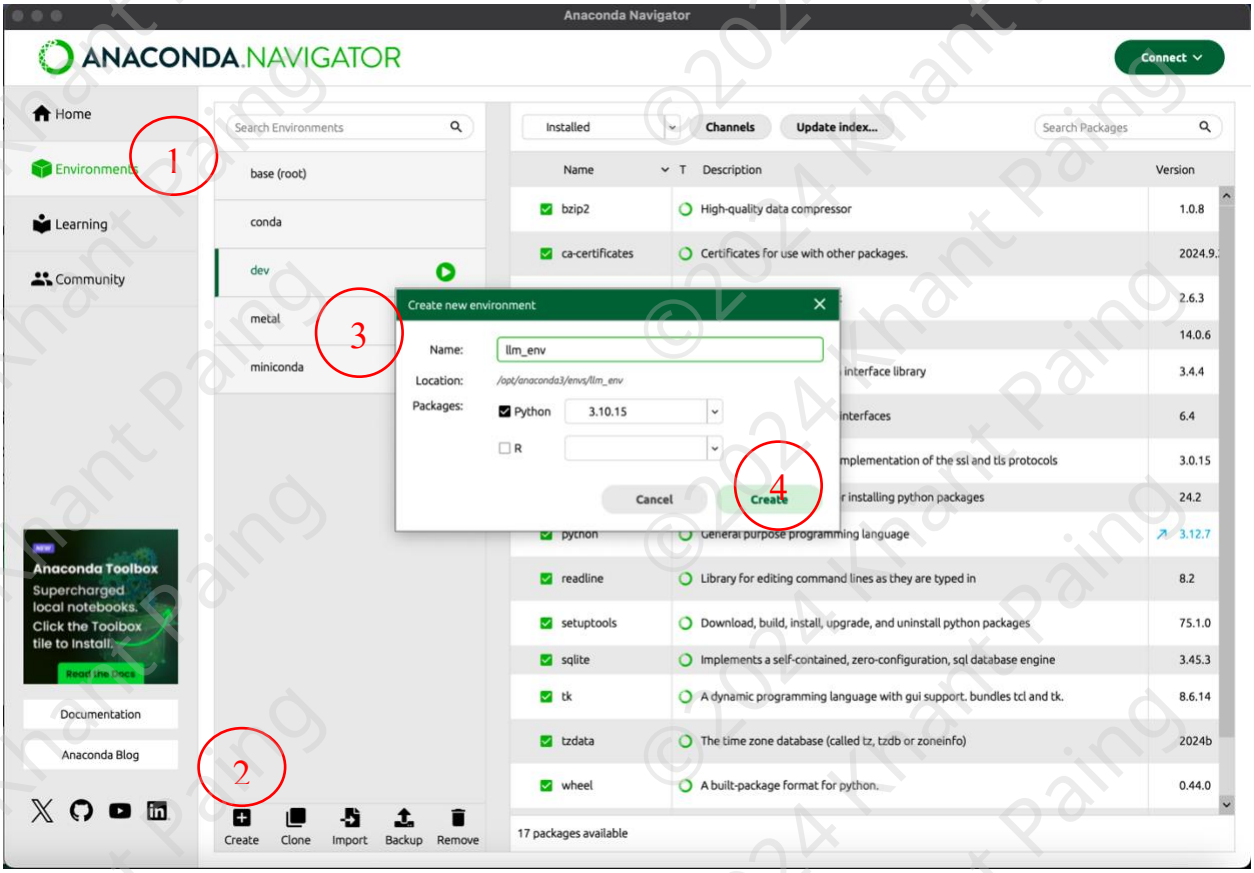


Figure 23: Anaconda navigator environments interface

Installing require Python packages

- There's a zipped file called **"intro_llms"** that we shared.
- Please save that file on your Desktop and extract, we will get a folder with the same name as zipped file.
- If we go inside that folder, we will see another folder called **"src"** and a text file called **"requirements.txt"** as shown in Figure 24.

On Windows, we can enter **"cmd"** in the navigation bar to call **command-line interface** as shown in Figure 24 and 25.

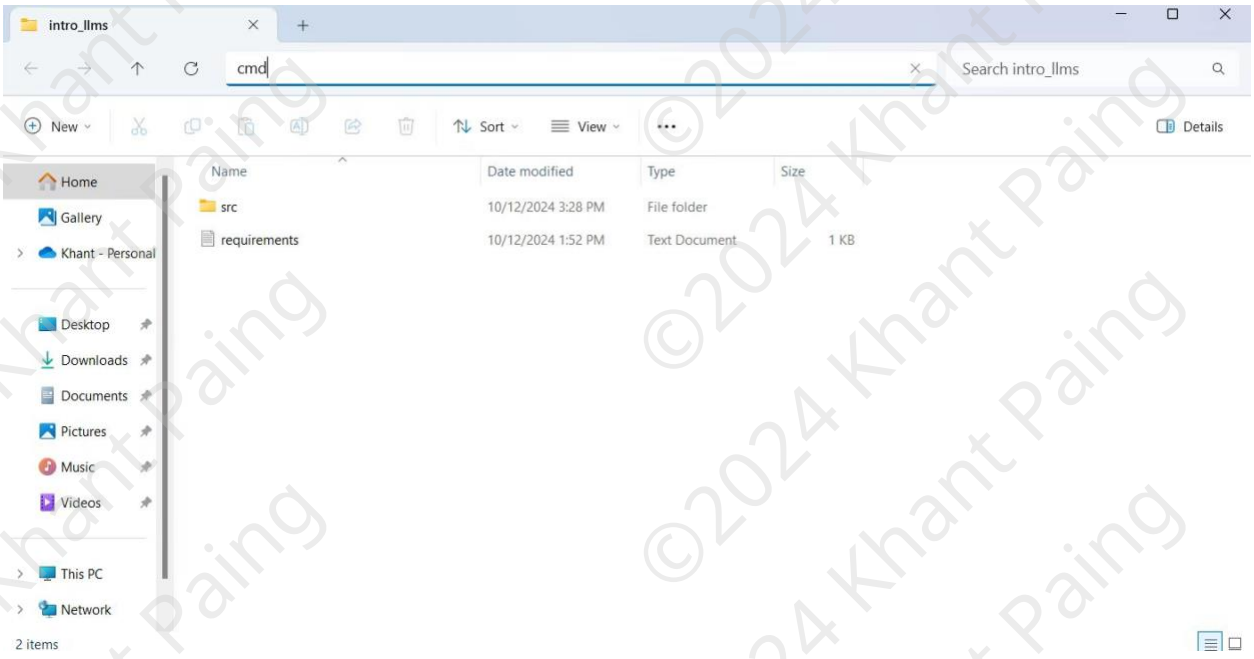


Figure 24: src folder and requirements.txt file inside intro_llms folder

Figure 25: Command-line interface after entering "cmd" in navigation bar

On Mac, you can navigate to **"intro_llms"** folder in the **terminal** using "**cd Desktop/intro_llms**" command, Figure 26. Make sure you save the "intro_llms" folder on Desktop.

Figure 26: Navigating to intro_llms folder on Mac

The following steps can be followed on both Mac and Windows:

- Activate the "llm_env" virtual environment using the following command: "conda activate llm_env".

```
~/Desktop/intro_llms
conda activate llm_env
```

- Install required Python packages:
  "pip install -i https://pypi.tuna.tsinghua.edu.cn/simple/ -r requirements.txt"

```
llm_env ~/Desktop/intro_llms
pip install -i https://pypi.tuna.tsinghua.edu.cn/simple/ -r requirements.txt
```

5. Installing Python extensions on VSCode

This step is also the same for Windows and Mac users.

Once you launch the VSCode, you will see the similar screen as in Figure 27.

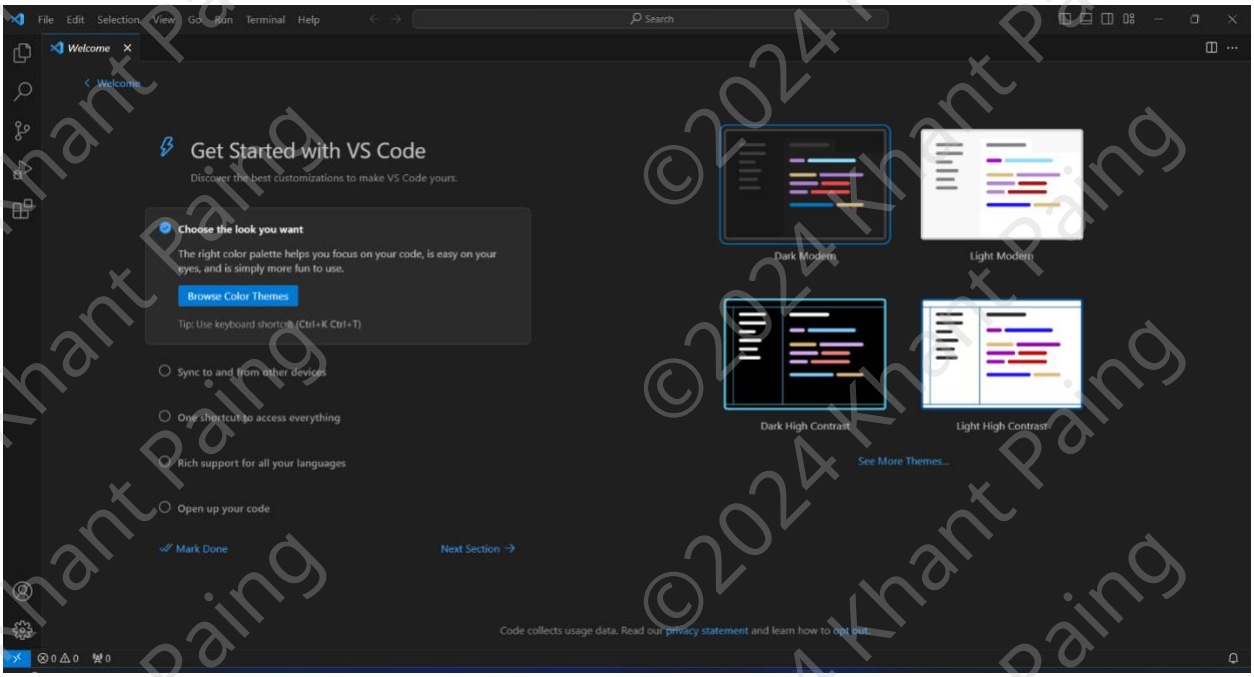


Figure 27: VSCode start welcome page

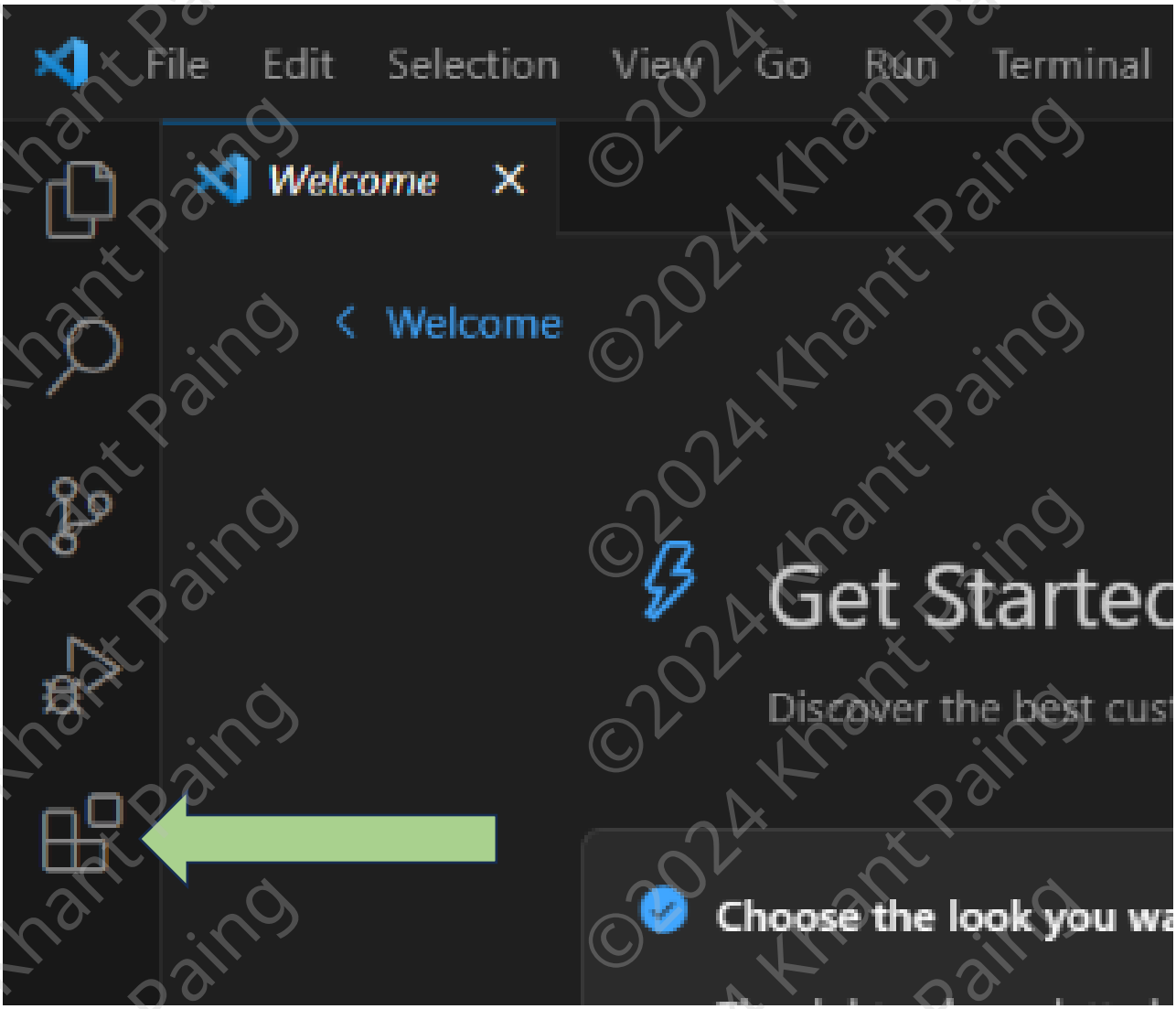


Figure 28: VSCode extensions market tab shown with green arrow

- Click on the **icon shown with green arrow** in Figure 28 to open VSCode extensions market tab.

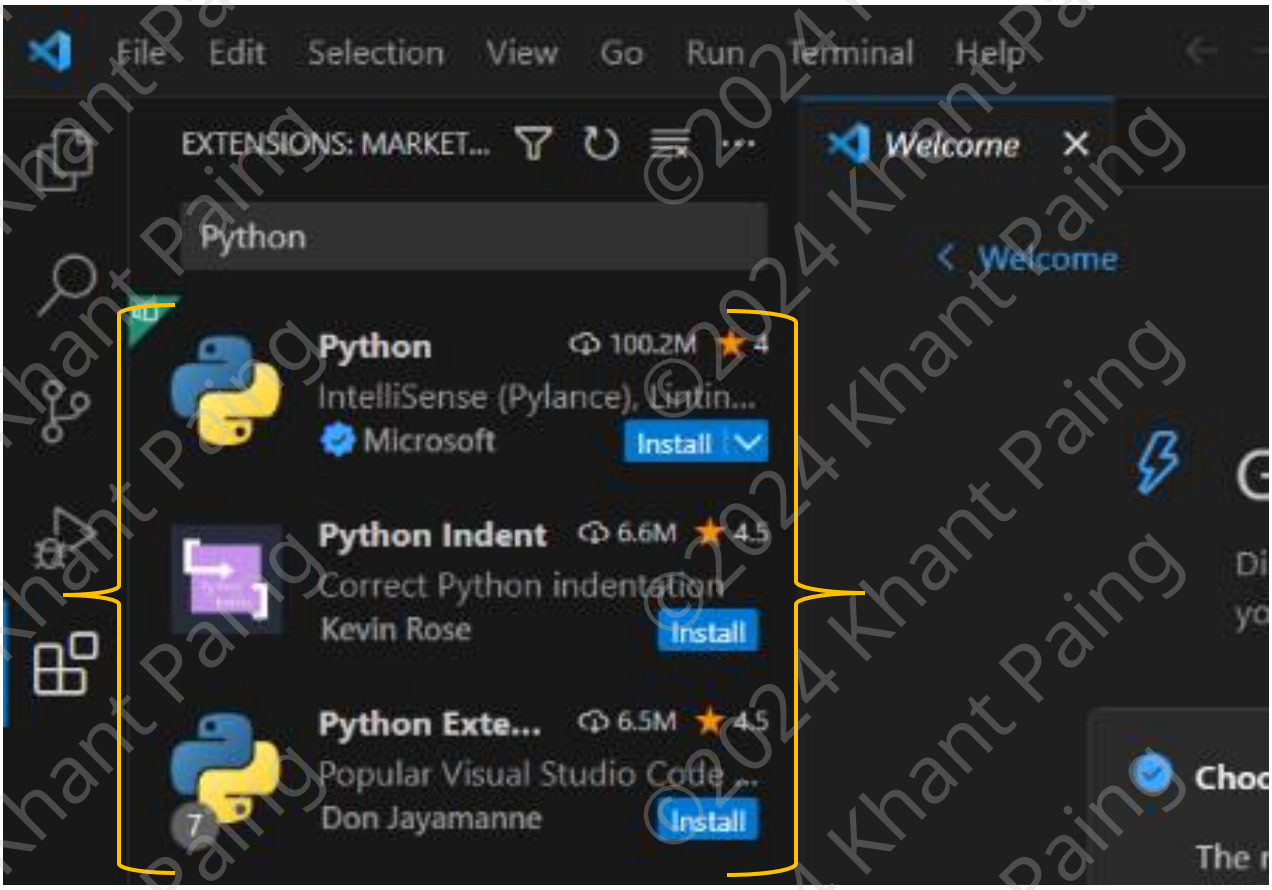


Figure 23: Essential Python extensions for our tutorial

- You can **type Python** in search bar and hit enter to find VSCode Python extension.
- Click on **Install button** for each extension inside yellow curly braces.

6. Installing Jupyter extensions on VSCode

- You can **type Jupyter** in search bar and hit enter to find VSCode Jupyter extension. Make sure it's the one developed by **Microsoft** as in Figure 24**.**
- Click on **Install button**

Figure 24: Jupyter extension in VSCode

Good Luck!