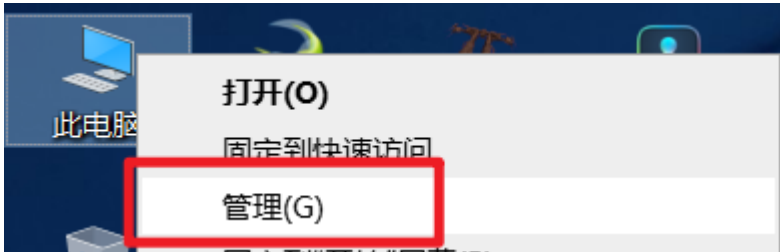


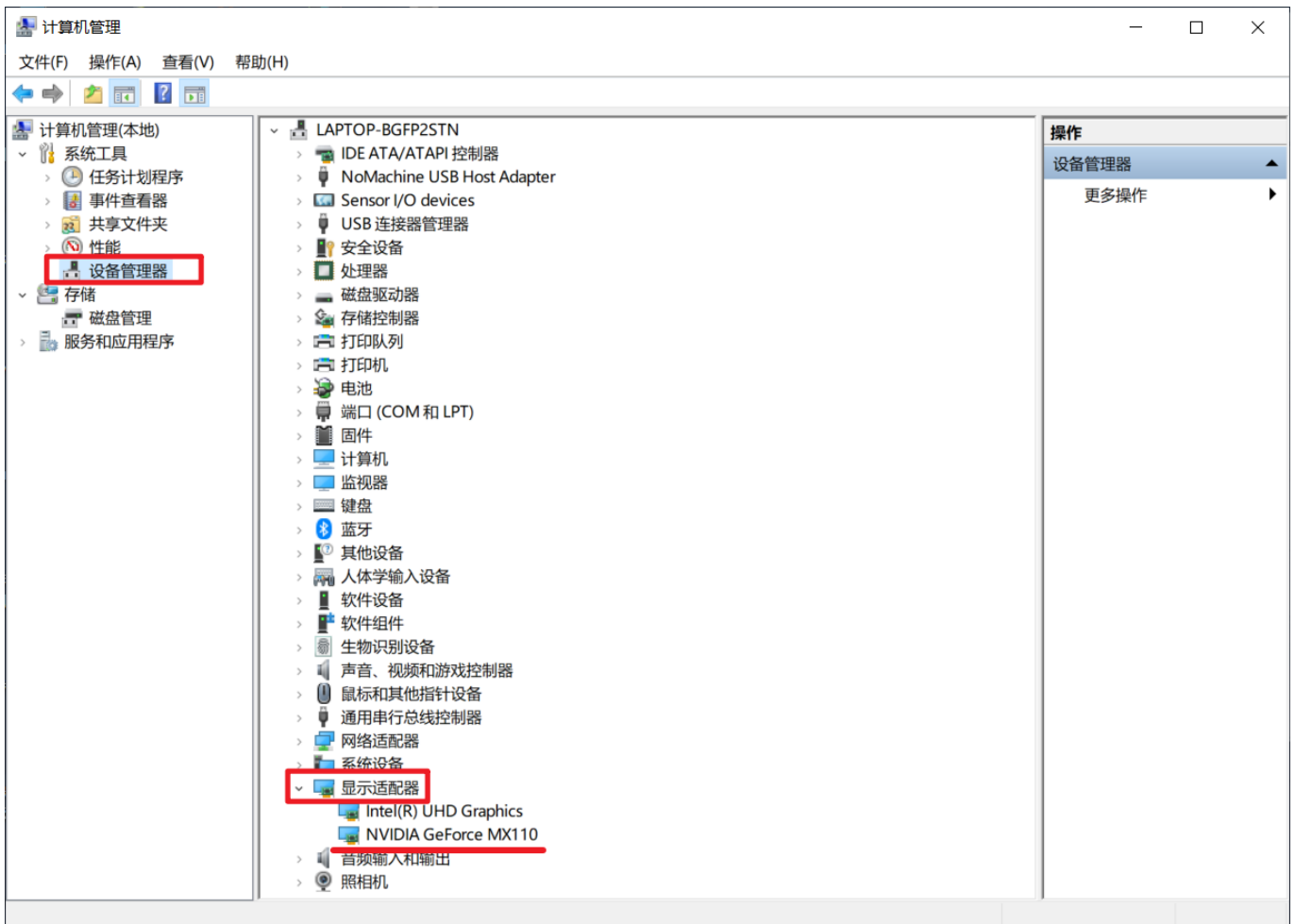
Windows 安装 Cuda Python 环境

检查显卡

右键此电脑，点击管理

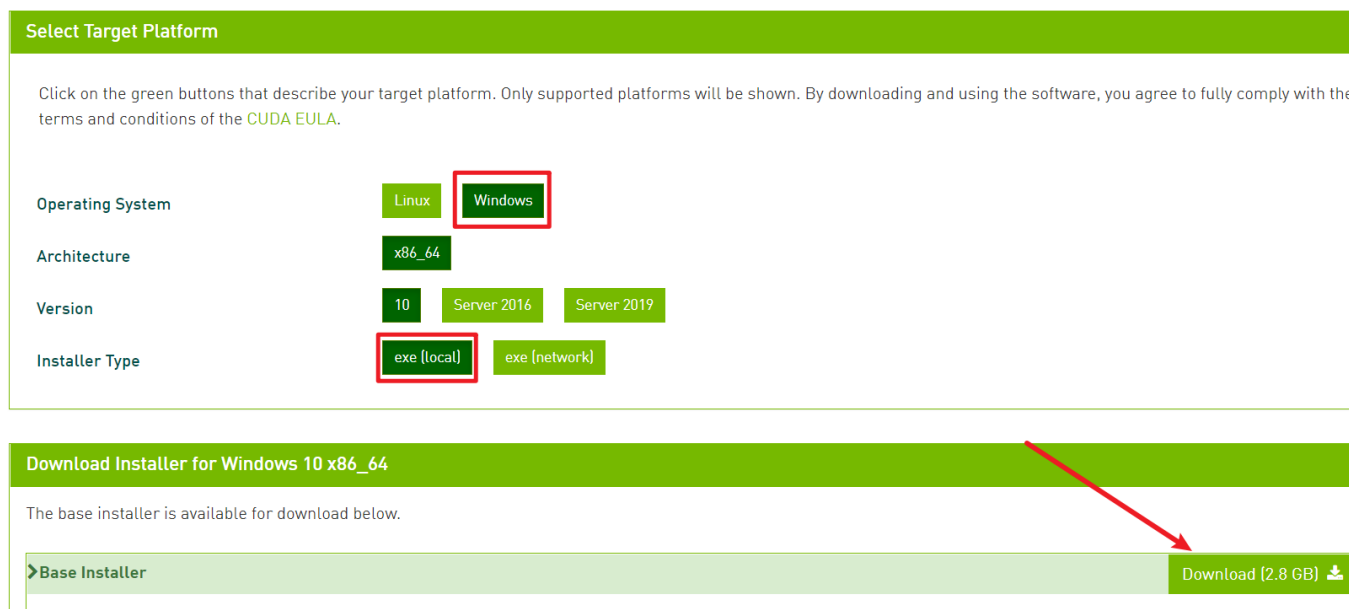


进入设备管理器，展开显示适配器，如果其中有 NVIDIA 开头的显卡，就说明你的电脑符合安装 Cuda 的条件



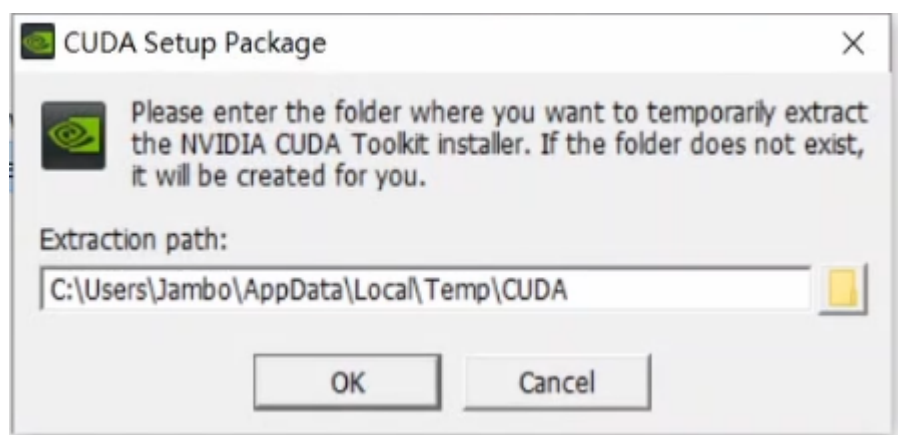
安装 Cuda 驱动

进入下载网站：<https://developer.nvidia.com/cuda-downloads>



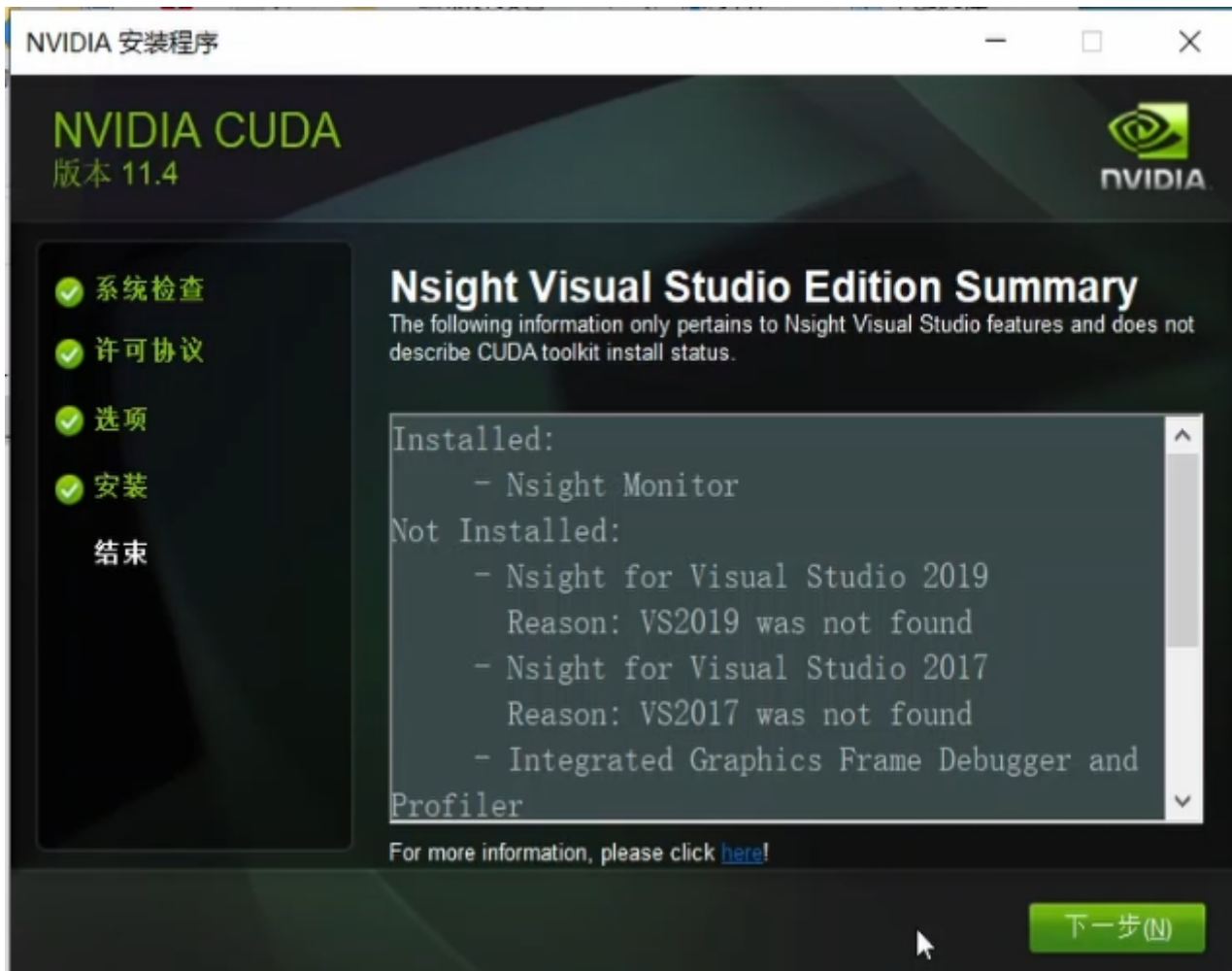
打开安装包

点击 OK



待程序加载完成，点击下一步即可

完成



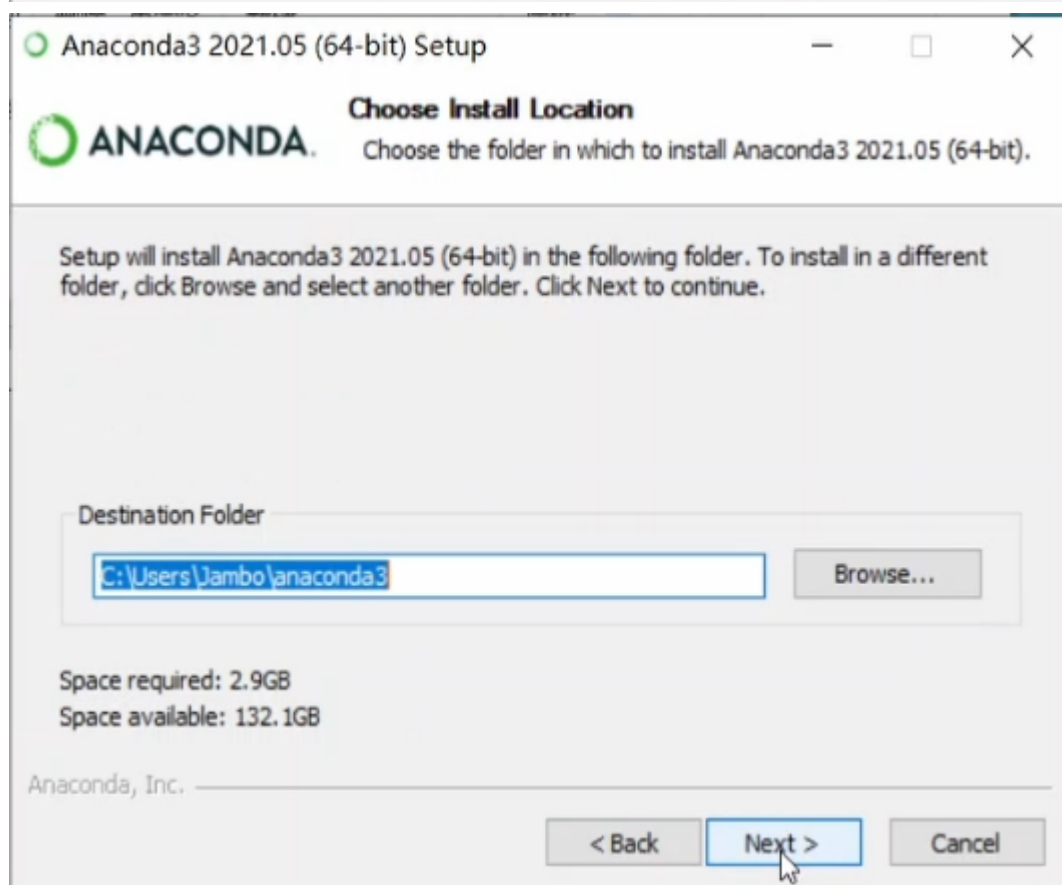
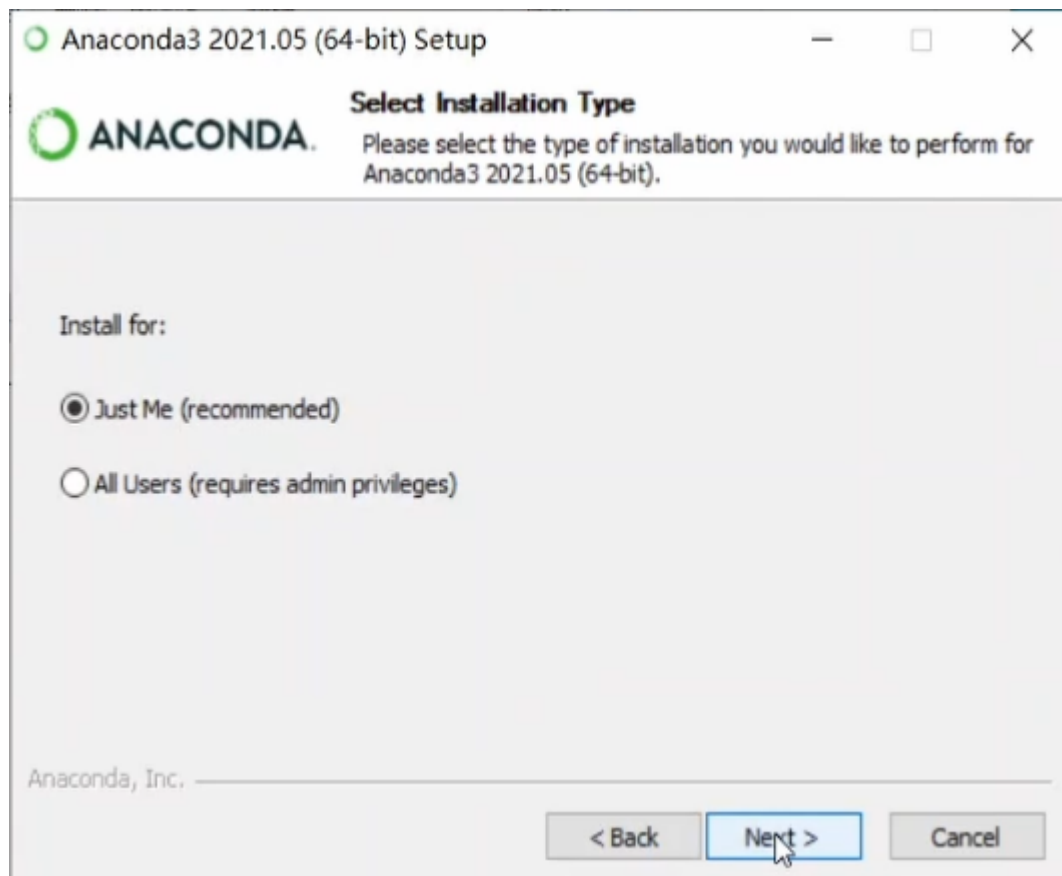
安装 Anaconda

进入网站: <https://www.anaconda.com/products/individual#Downloads>

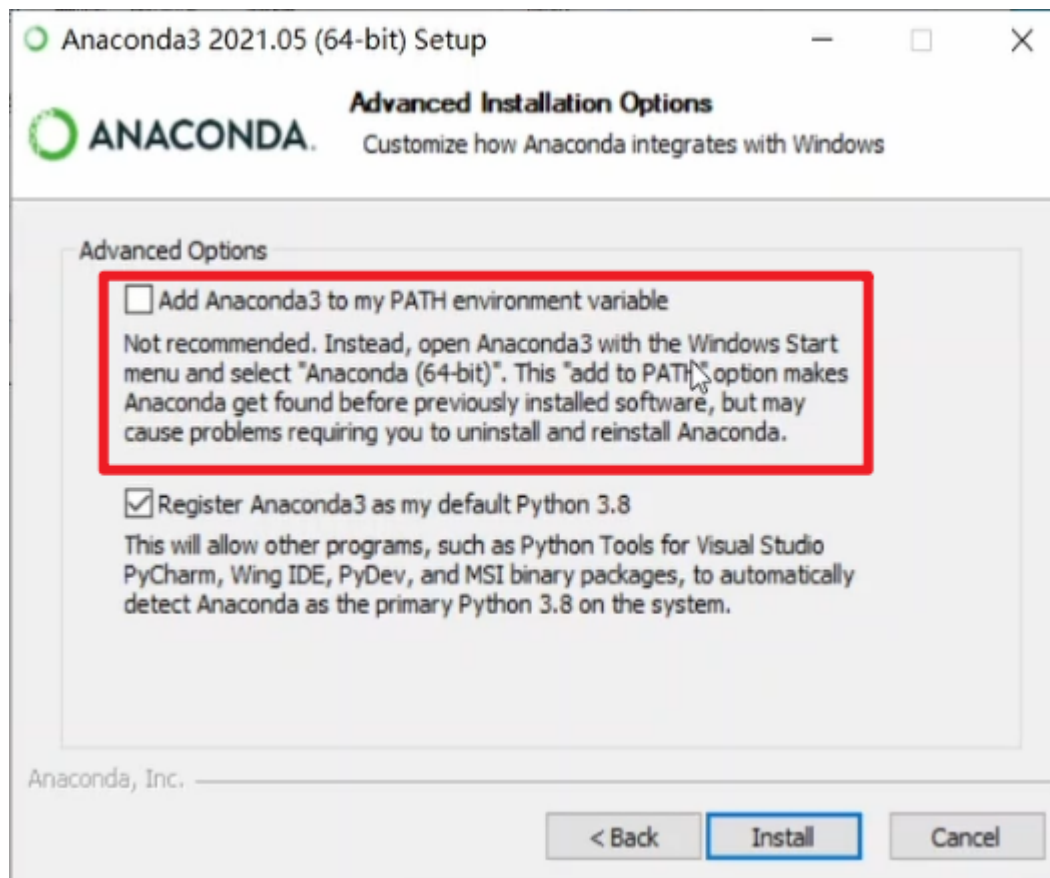
点击下载



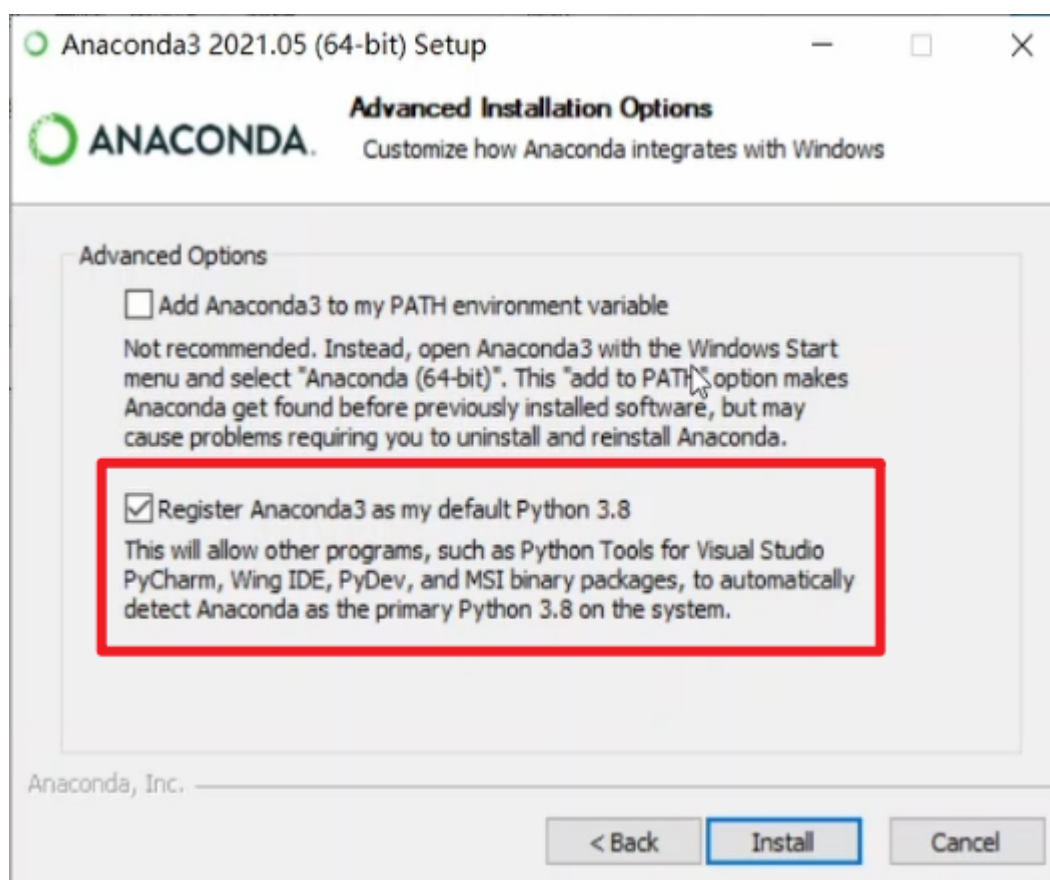
安装方式和目录安装自己喜好设定



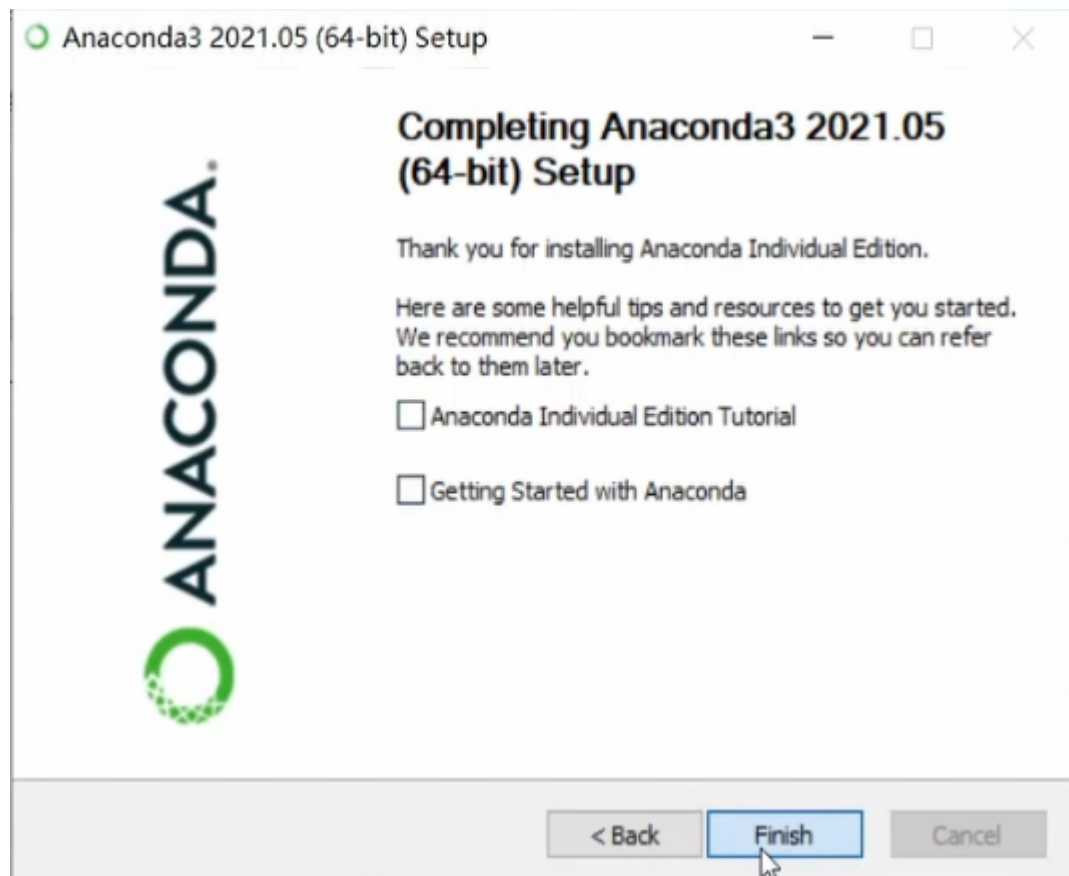
第一个选项一般不勾选



如果电脑中装有其他版本的 Python 或 Conda , **取消勾选**

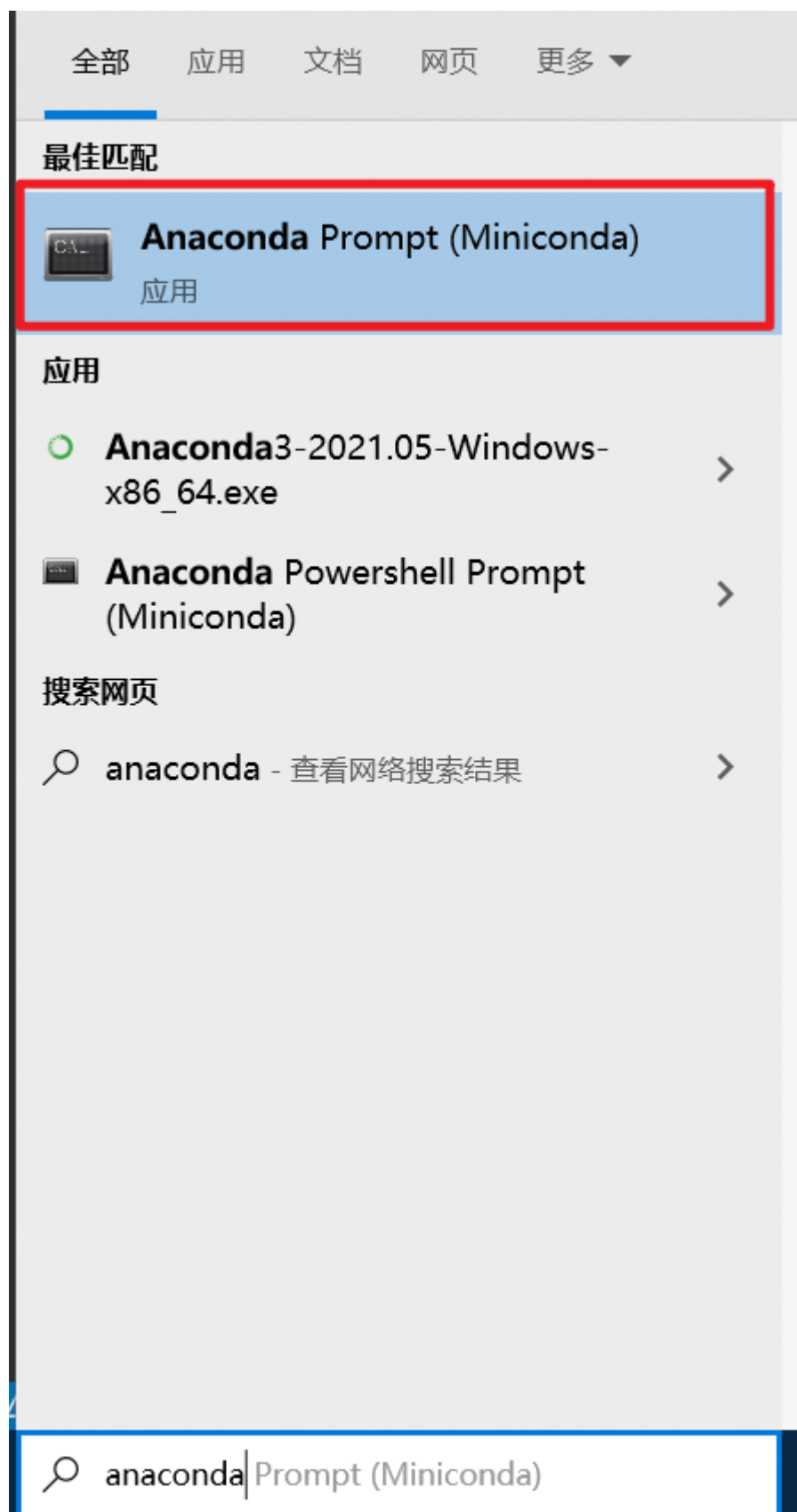


点击 **install** , 并等待安装完成。



安装运行环境

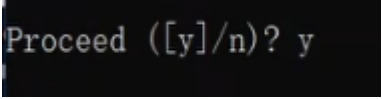
打开 Anaconda 的命令行



首先要创建一个新的虚拟环境

```
conda create --name 环境名 python
```

根据提示, 输入 **y** 回车, 后面同理

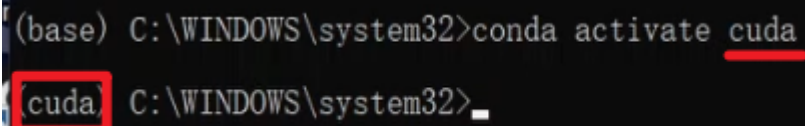


```
Proceed ([y]/n)? y
```

进入刚刚所创建的环境

```
conda activate 环境名
```

如果前面括号中的词变为新建环境的名字，就说明进入成功



```
(base) C:\WINDOWS\system32>conda activate cuda
(cuda) C:\WINDOWS\system32>
```

依次输入以下命令，进行安装

```
conda install python
conda install numba
conda install cudatoolkit
pip install opencv-python
conda install jupyterlab
```

等待安装完成

验证安装

输入以下命令

```
nvidia-smi
```

如果输出如下，就说明 Cuda 驱动安装完成

NVIDIA-SMI 471.41				Driver Version: 471.41		CUDA Version: 11.4		
GPU	Name	TCC/WDDM		Bus-Id	Disp. A	Volatile	Uncorr. ECC	
Fan	Temp	Perf	Pwr:Usage/Cap	Memory-Usage		GPU-Util	Compute M.	
							MIG M.	
0	NVIDIA GeForce ...	WDDM		00000000:02:00.0	Off			N/A
N/A	0C	P5	N/A / N/A	196MiB /	2048MiB	37%	Default	N/A
Processes:								
GPU	GI	CI	PID	Type	Process name	GPU	Memory	
	ID	ID				Usage		
0	N/A	N/A	7080	C+G	...tudio\bin\64bit\obs64.exe	N/A		
0	N/A	N/A	10448	C+G	Insufficient Permissions	N/A		

输入以下命令

```
nvcc -V
```

如果有弹出版版本号（如下），就说明编译环境安装完成

```
nvcc: NVIDIA (R) Cuda compiler driver
Copyright (c) 2005-2021 NVIDIA Corporation
Built on Wed_Jul_14_19:47:52_Pacific_Daylight_Time_2021
Cuda compilation tools, release 11.4, V11.4.100
Build cuda_11.4.r11.4/compiler.30188945_0
```

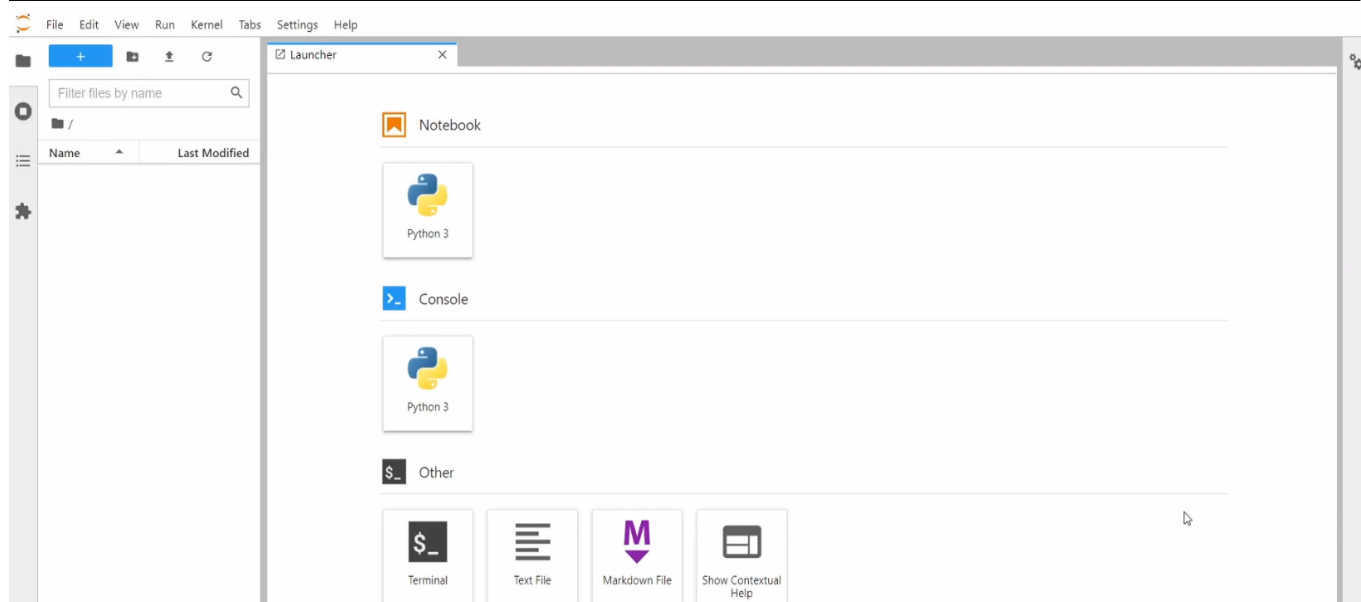
输入以下命令

```
jupyter-lab
```

如果有开始加载，并弹出浏览器，就说明 Jupyter 安装完成

```
管理员: Anaconda Prompt (Anaconda) - conda install python - conda install numba - conda install cudatoolkit - conda install jupyterlab - ...
(cuda) C:\WINDOWS\system32>jupyter-lab
[I 2021-08-05 13:42:37.385 ServerApp] jupyterlab | extension was successfully linked.
[W 2021-08-05 13:42:37.399 ServerApp] The 'min_open_files_limit' trait of a ServerApp instance expected an int, not the NoneType None.
[I 2021-08-05 13:42:37.436 LabApp] JupyterLab extension loaded from D:\Programs\Anaconda\envs\cuda\lib\site-packages\jupyterlab
[I 2021-08-05 13:42:37.436 LabApp] JupyterLab application directory is D:\Programs\Anaconda\envs\cuda\share\jupyter\lab
[I 2021-08-05 13:42:37.441 ServerApp] jupyterlab | extension was successfully loaded.
[I 2021-08-05 13:42:37.649 ServerApp] nbclassic | extension was successfully loaded.
[I 2021-08-05 13:42:37.649 ServerApp] Serving notebooks from local directory: C:\WINDOWS\system32
[I 2021-08-05 13:42:37.650 ServerApp] Jupyter Server 1.4.1 is running at:
[I 2021-08-05 13:42:37.656 ServerApp] http://localhost:8888/lab?token=175b38e8ddd71bfce3a5242ca5a17d30d623051af309dac8
[I 2021-08-05 13:42:37.657 ServerApp] or http://127.0.0.1:8888/lab?token=175b38e8ddd71bfce3a5242ca5a17d30d623051af309dac8
[I 2021-08-05 13:42:37.657 ServerApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 2021-08-05 13:42:37.718 ServerApp]

To access the server, open this file in a browser:
file:///C:/Users/Jambo/AppData/Roaming/jupyter/runtime/jpserver-15328-open.html
Or copy and paste one of these URLs:
http://localhost:8888/lab?token=175b38e8ddd71bfce3a5242ca5a17d30d623051af309dac8
or http://127.0.0.1:8888/lab?token=175b38e8ddd71bfce3a5242ca5a17d30d623051af309dac8
[I 2021-08-05 13:42:42.955 LabApp] Build is up to date
[W 2021-08-05 13:42:43.063 ServerApp] 404 GET /api/contents/Untitled.ipynb?content=0&1628142163057 (::1): No such file or directory: Untitled.ipynb
[W 2021-08-05 13:42:43.063 ServerApp] No such file or directory: Untitled.ipynb
[W 2021-08-05 13:42:43.065 ServerApp] 404 GET /api/contents/Untitled.ipynb?content=0&1628142163057 (::1) 3.99ms referer=http://localhost:8888/lab
```



退出环境

关闭 Jupyter 只需回到命令行，按 **Ctrl + C**

```
http://localhost:8888/lab
[I 2021-08-05 13:42:58.801 ServerApp] Interrupted...
[I 2021-08-05 13:42:58.802 ServerApp] Shutting down 0 kernels
(cuda) C:\WINDOWS\system32>
```

退出 Conda 虚拟环境，输入以下命令即可

```
conda deactivate
```

此时，前面括号中的名字也变为 (conda)