



Installing Keras in R

Handbook Guide

September 2024



Contents

Python Installation	2
<ul style="list-style-type: none">• Installing Python using <i>Miniconda</i>• Verify Miniconda Installation	
`keras` Installation	8
<ul style="list-style-type: none">• Installing `keras` in R• Verify `keras` Installation• Common error in `keras` installation	

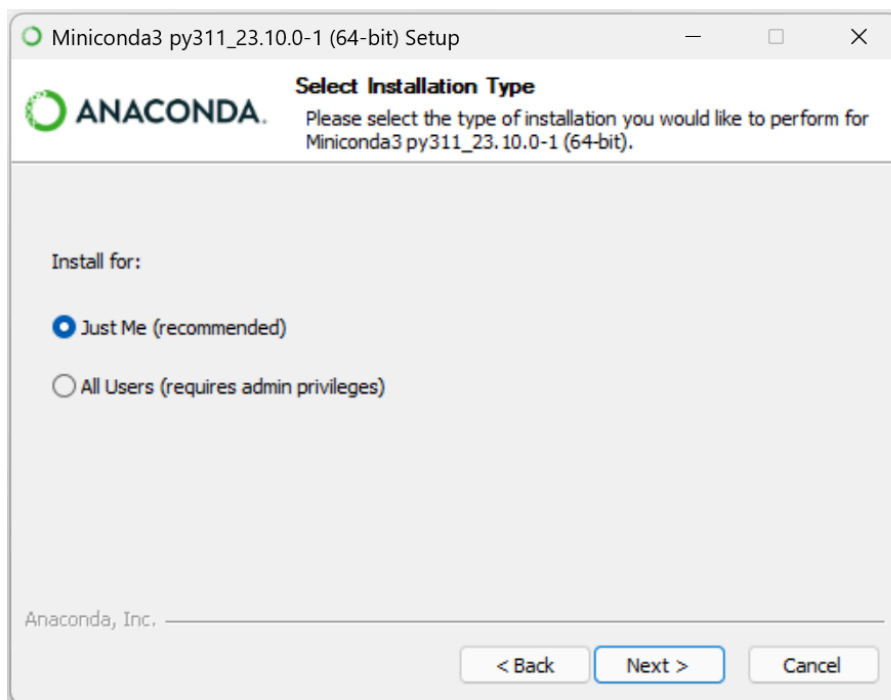


Installation

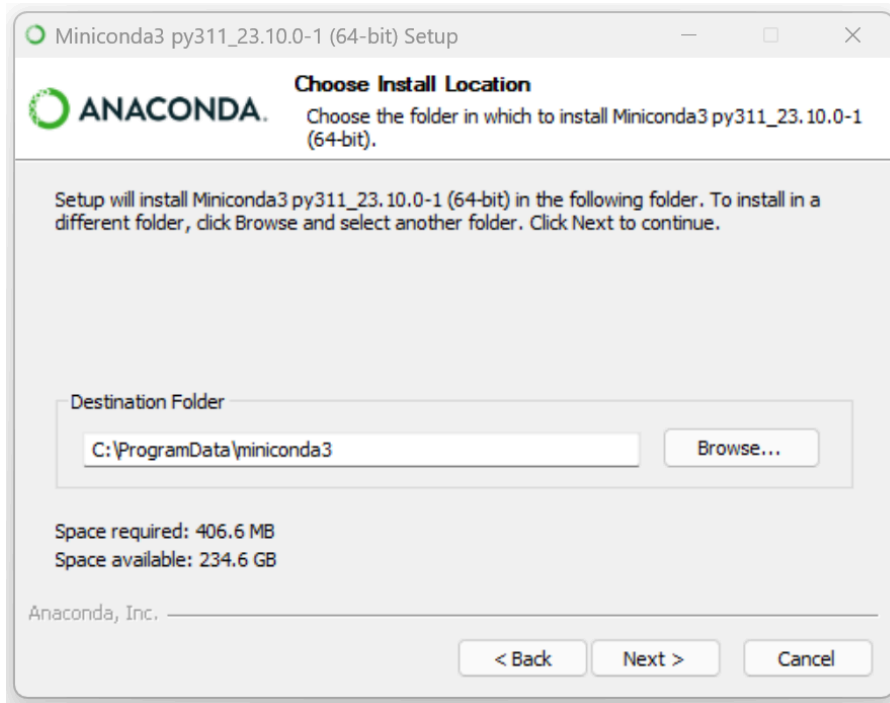
Installing Python using *Miniconda*

To install Python, we will use **Miniconda**, a minimal version of Anaconda that includes only *conda*, Python, and the essential packages they rely on. Miniconda provides not only Python but also the required packages (such as numpy and pandas) used in our workshops. Please follow the steps below to install Miniconda:

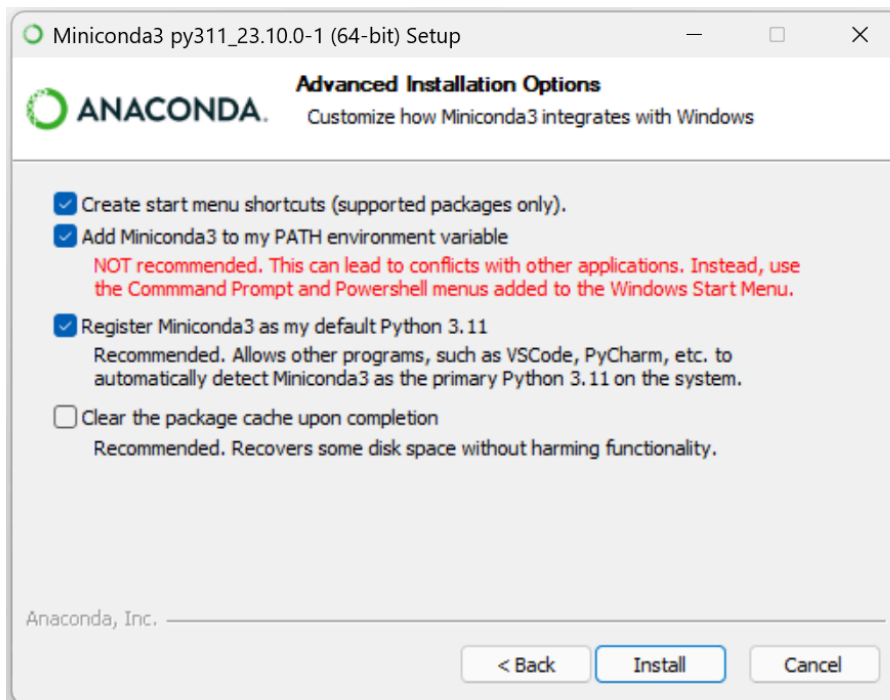
1. Open your web browser and **go to the official Miniconda download page** using this link: <https://docs.conda.io/projects/miniconda/en/latest/>
2. On the download page, you'll find options for Windows, macOS, and Linux. **Select the appropriate download link that matches your operating system.**
3. Once the download is complete, launch the Miniconda installer file.
4. Follow the installation instructions.
5. When you're on the Select Installation Type menu, select **Just Me (recommended)**



6. Choose the installation location. It's **recommended to accept the default location**



7. **! IMPORTANT** : Select the checkbox to add Miniconda to my **PATH environment variable**. This makes it easier to use Miniconda in other applications.



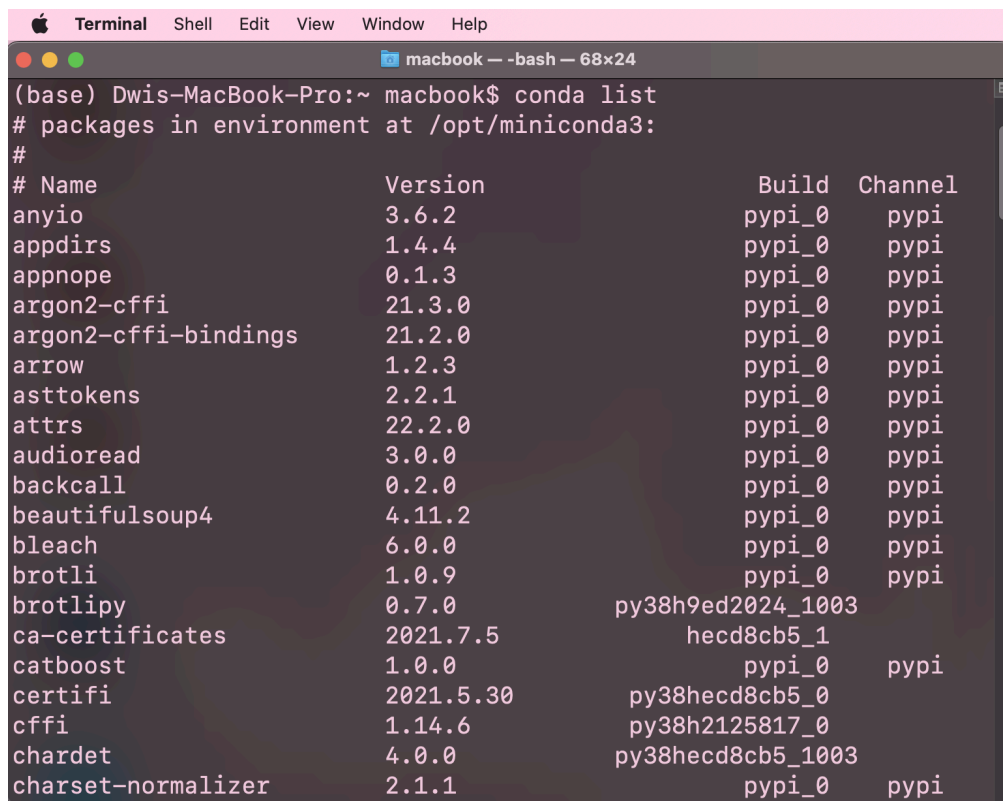
8. Press the **Install** button to start the installation.

System Verification

- **For Mac OS X and Linux-based OS:** Open “Terminal”
- **For Windows:** Open “Anaconda Prompt (miniconda3)”

Verify Miniconda Installation

1. Type the command `conda list` in your “Terminal” or “Anaconda Prompt (miniconda3)”.
2. If the installation was completed successfully, your terminal will give a response of list of packages like the example below.
3. If your terminal does not give any response, please check the installation section’s **Warning**, if the problem still persists, kindly reach out for further assistance via email at mentor@algorit.ma.



```
(base) Dwis-MacBook-Pro:~ macbook$ conda list
# packages in environment at /opt/miniconda3:
#
# Name                                Version                                Build      Channel
anyio                                 3.6.2                                pypi_0     pypi
appdirs                              1.4.4                                pypi_0     pypi
appnope                              0.1.3                                pypi_0     pypi
argon2-cffi                          21.3.0                               pypi_0     pypi
argon2-cffi-bindings                 21.2.0                               pypi_0     pypi
arrow                                 1.2.3                                pypi_0     pypi
asttokens                             2.2.1                                pypi_0     pypi
attrs                                 22.2.0                               pypi_0     pypi
audioread                             3.0.0                                pypi_0     pypi
backcall                              0.2.0                                pypi_0     pypi
beautifulsoup4                       4.11.2                               pypi_0     pypi
bleach                                6.0.0                                pypi_0     pypi
brotli                               1.0.9                                pypi_0     pypi
brotlipy                              0.7.0                                py38h9ed2024_1003
ca-certificates                      2021.7.5                             hecd8cb5_1
catboost                             1.0.0                                pypi_0     pypi
certifi                              2021.5.30                            py38hecd8cb5_0
cffi                                  1.14.6                               py38h2125817_0
chardet                              4.0.0                                py38hecd8cb5_1003
charset-normalizer                    2.1.1                                pypi_0     pypi
```

Figure 7: `conda list` Response on Mac OS X Terminal

```
Anaconda Prompt (miniconda) X + v

(base) C:\Users\user>conda list
# packages in environment at C:\Users\user\miniconda3:
#
# Name                        Version      Build      Channel
boltons                      23.0.0       py311haa95532_0
brotlipy                     0.7.0        py311h2bbff1b_1002
bzip2                        1.0.8        he774522_0
ca-certificates              2023.05.30   haa95532_0
certifi                      2023.5.7     py311haa95532_0
cffi                         1.15.1       py311h2bbff1b_3
charset-normalizer           2.0.4        pyhd3eb1b0_0
colorama                     0.4.6        py311haa95532_0
conda                        23.5.2       py311haa95532_0
conda-content-trust          0.1.3        py311haa95532_0
conda-libmamba-solver        23.5.0       py311haa95532_0
conda-package-handling       2.1.0        py311haa95532_0
conda-package-streaming      0.8.0        py311haa95532_0
console_shortcut_miniconda  0.1.1        haa95532_1
cryptography                 39.0.1       py311h21b164f_2
fmt                          9.1.0        h6d14046_0
idna                         3.4          py311haa95532_0
jsonpatch                    1.32         pyhd3eb1b0_0
jsonpointer                  2.1          pyhd3eb1b0_0
libarchive                   3.6.2        hb62f4d4_2
libcurl                      8.1.1        h86230a5_0
libffi                       3.4.4        hd77b12b_0
libiconv                     1.16         h2bbff1b_2
libmamba                     1.4.1        h77c03ed_1
libmambapy                   1.4.1        py311h77c03ed_1
```

Figure 8: `conda list` Response on Anaconda Prompt (miniconda3)

`keras` Installation

Installing `keras` in R

- Open your R or Rstudio and you can run:

1. Install `keras` package you can use your UI or type `install.packages("keras")`

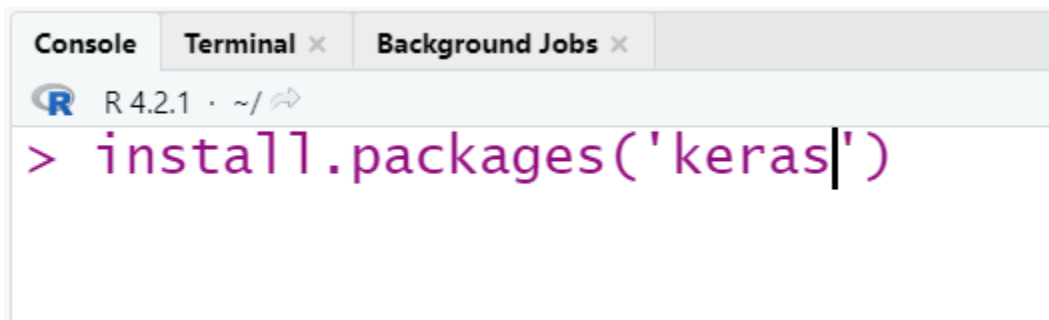


Figure 5 : Installing keras in rstudio console

2. Go to the **anaconda prompt** if you are windows user or **terminal** if you are linux/mac user.
3. Type `conda create -n r-tensorflow python=3.10`

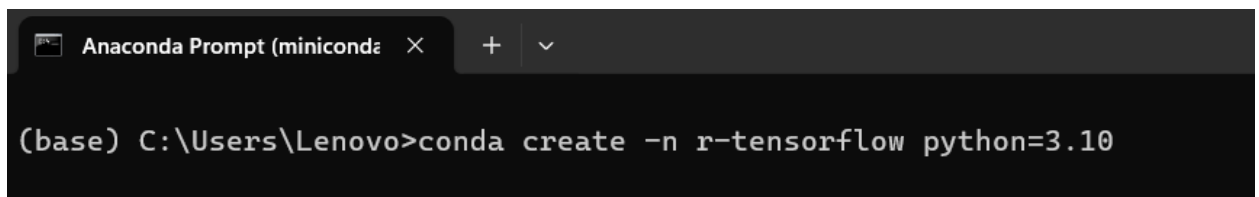


Figure 6 : creating new conda environment on windows anaconda prompt

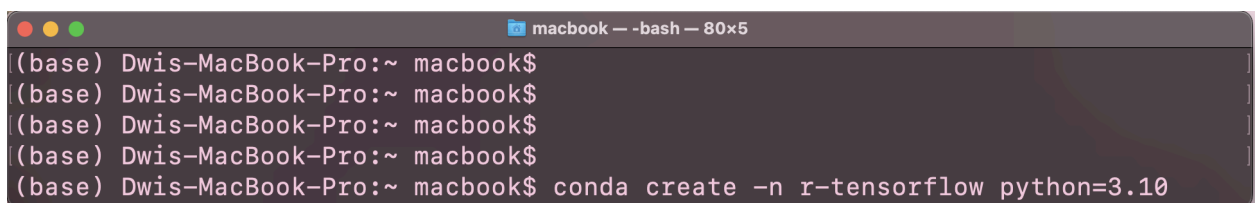
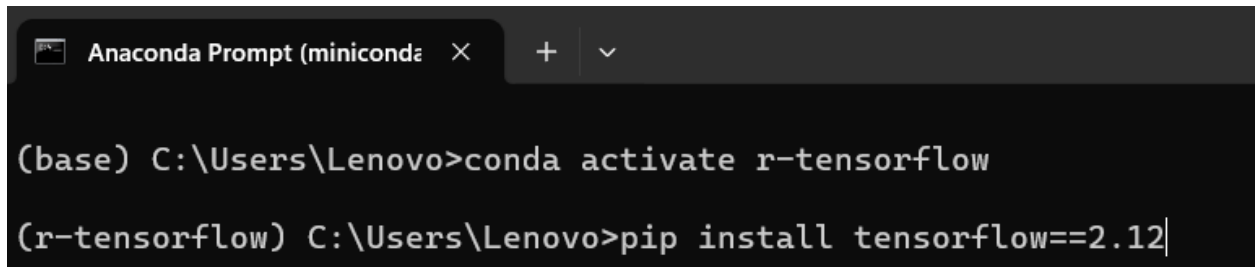


Figure 7 : creating new conda environment on MacOSX terminal

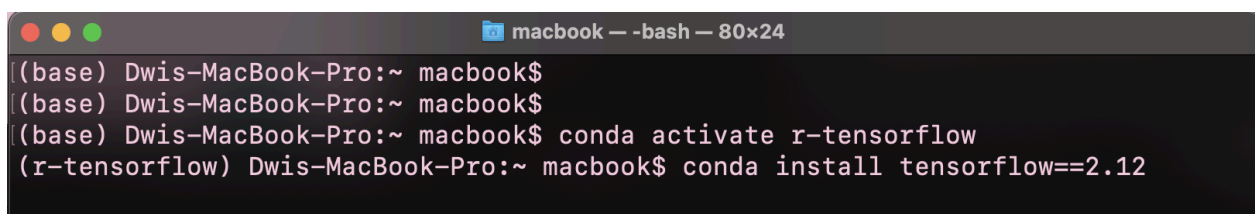
4. Type `y`
5. Type `conda activate r-tensorflow`
6. Installing tensorflow by type `pip install tensorflow==2.12`



```
(base) C:\Users\Lenovo>conda activate r-tensorflow
(r-tensorflow) C:\Users\Lenovo>pip install tensorflow==2.12|
```

Figure 8 : Installing tensorflow library on windows anaconda prompt

Or type `conda install tensorflow==2.12` if you are mac user



```
(base) Dwis-MacBook-Pro:~ macbook$
(base) Dwis-MacBook-Pro:~ macbook$
(base) Dwis-MacBook-Pro:~ macbook$ conda activate r-tensorflow
(r-tensorflow) Dwis-MacBook-Pro:~ macbook$ conda install tensorflow==2.12
```

Figure 9 : Installing tensorflow library on MacOSX terminal

7. Back to your Rstudio and Restart your R.
 - Go to Session > Restart R

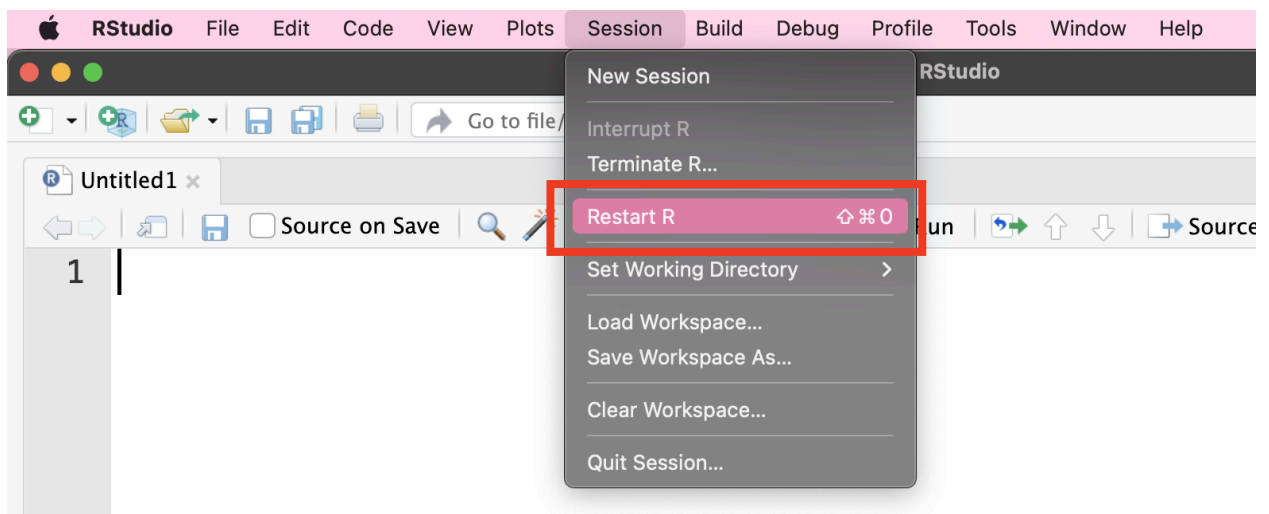


Figure 10: Restarting your R

8. Setting up your conda environment to rstudio
 - Go to Tools > Global Options

Figure 9: Going to global option

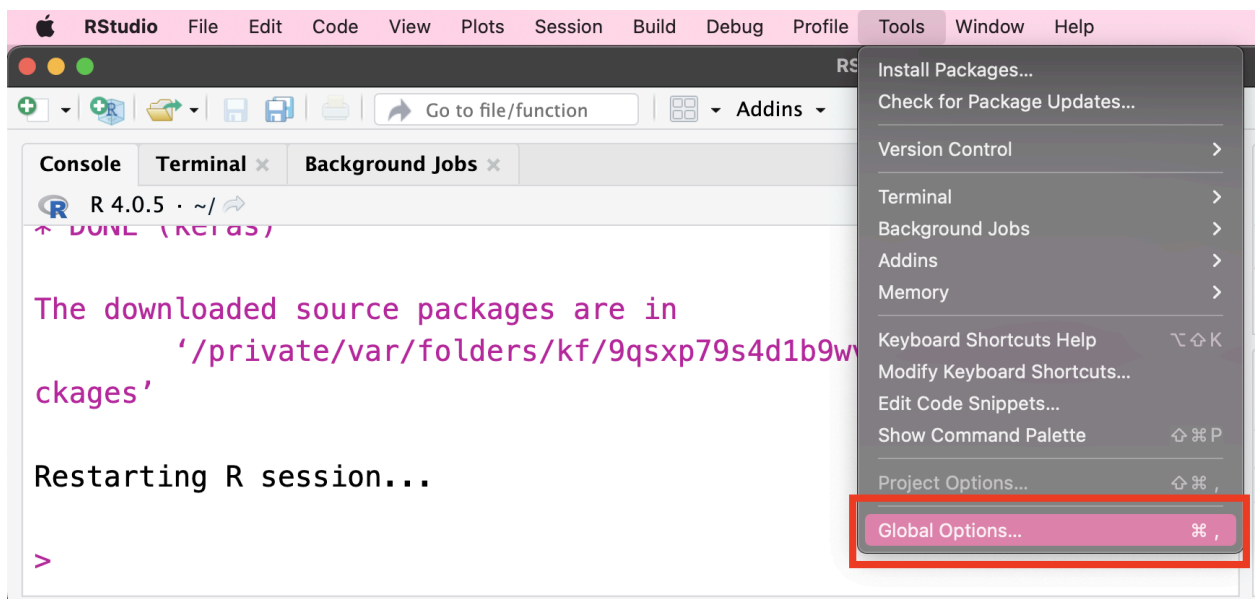


Figure 11 : Open Global Options

- Choose python then click select

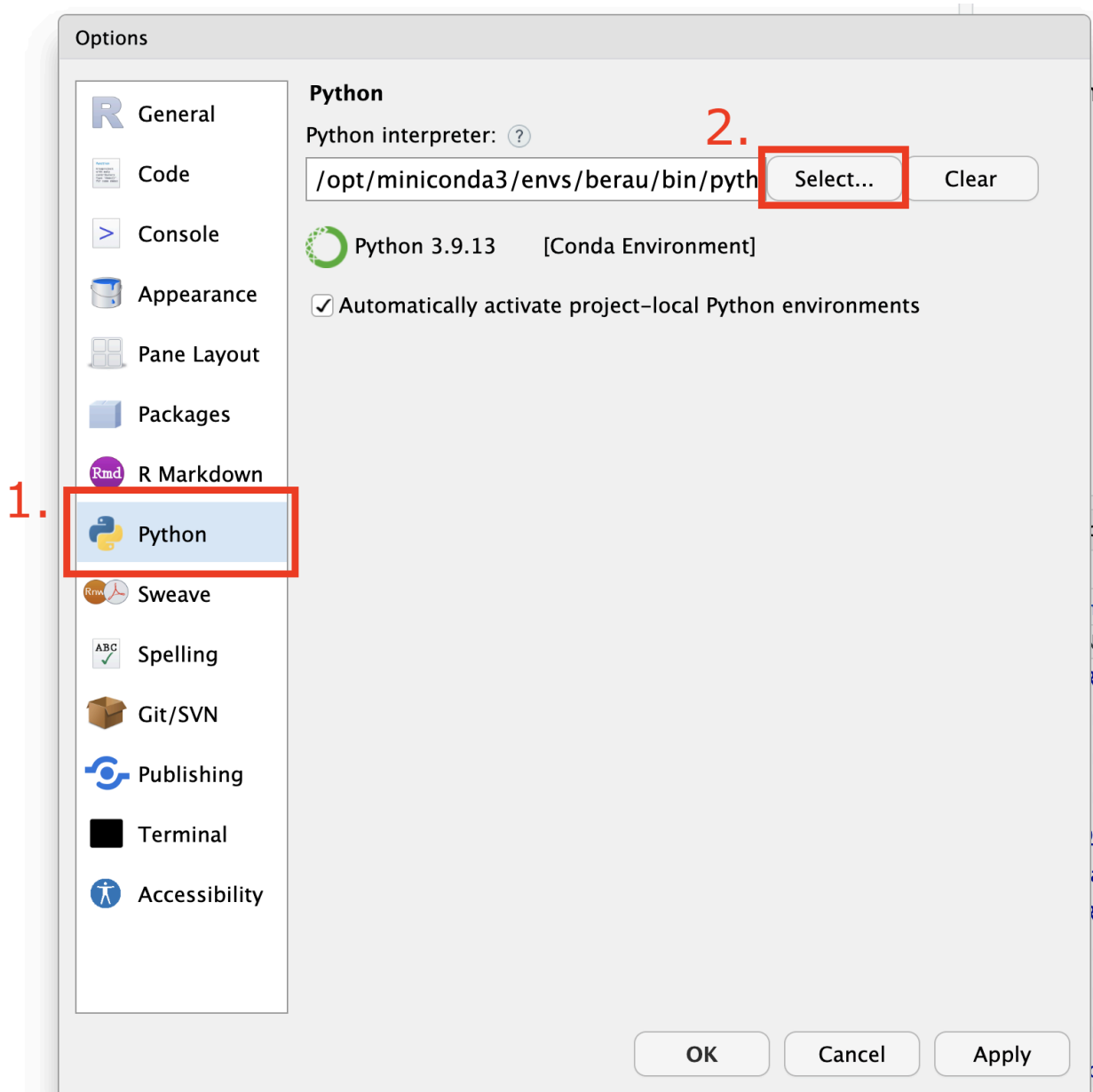


Figure 12: Going to python option

- Choose the conda environment, then choose the 'r-tensorflow' environment you installed earlier. Then press select.

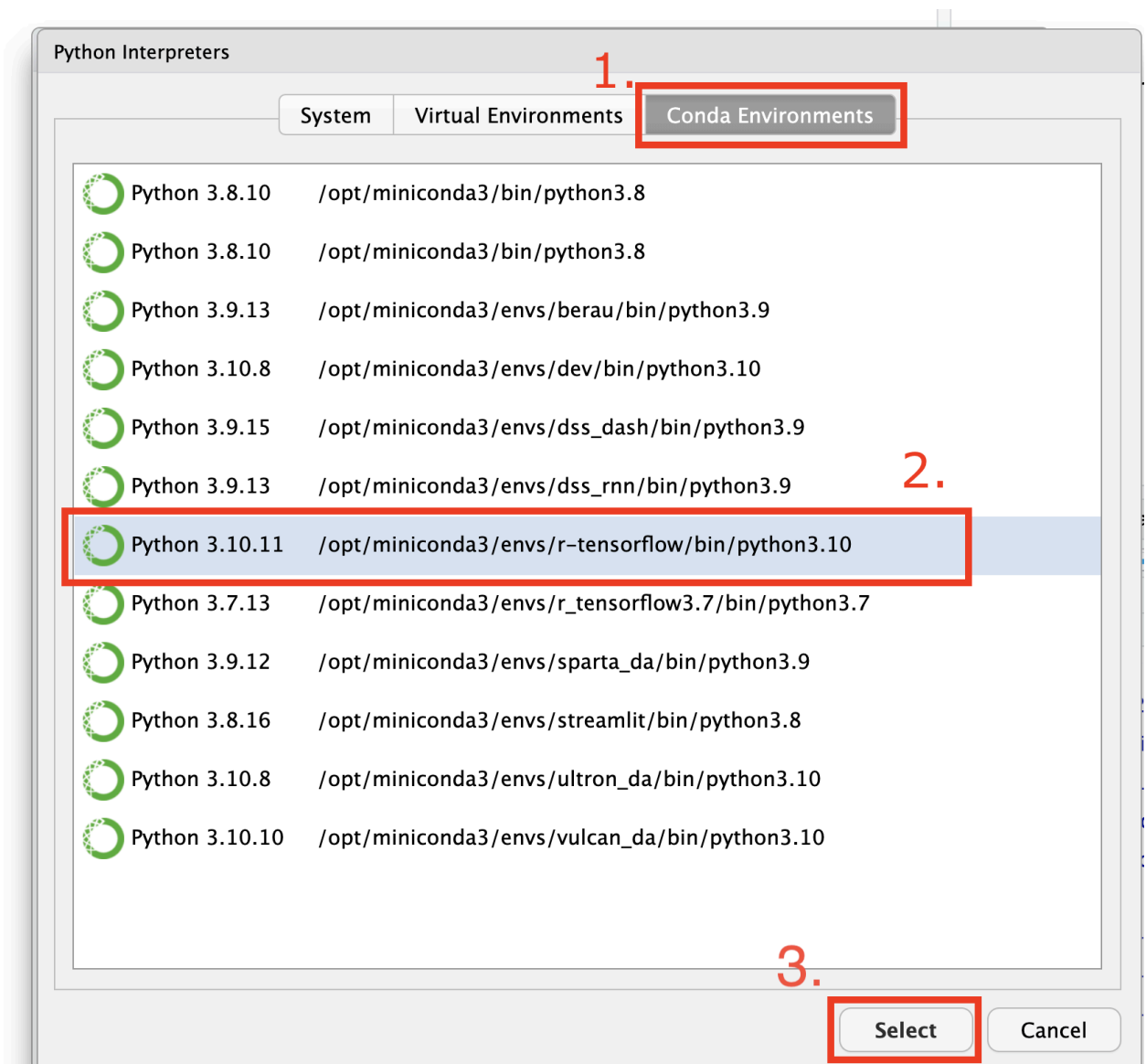


Figure 13: Choosing “r-tensorflow” environment

- Press apply then restart your R again.

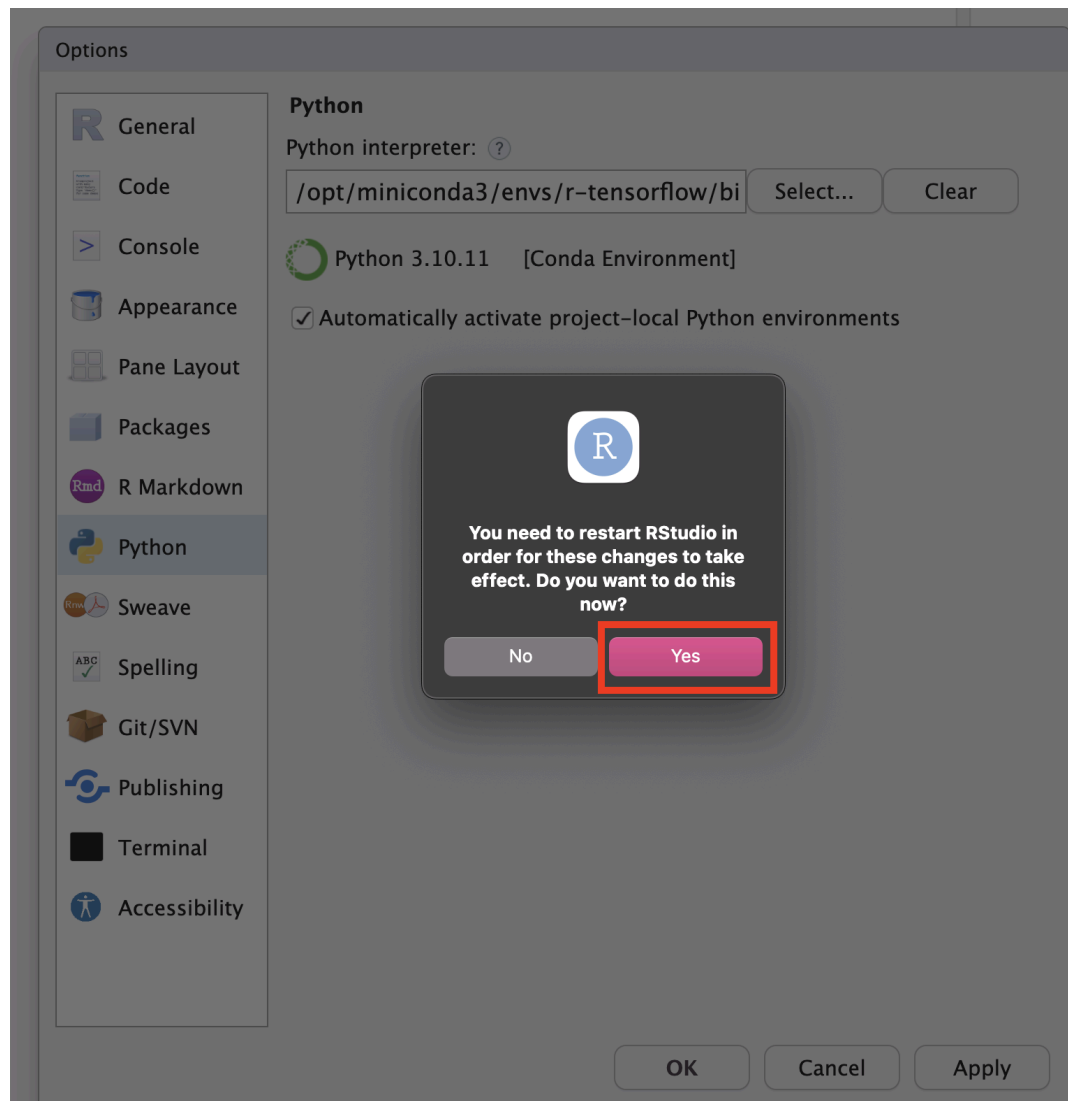


Figure 14 : Press Yes to restart RStudio

Verify `keras` Installation:

1. In your console type `library(keras)` > press enter

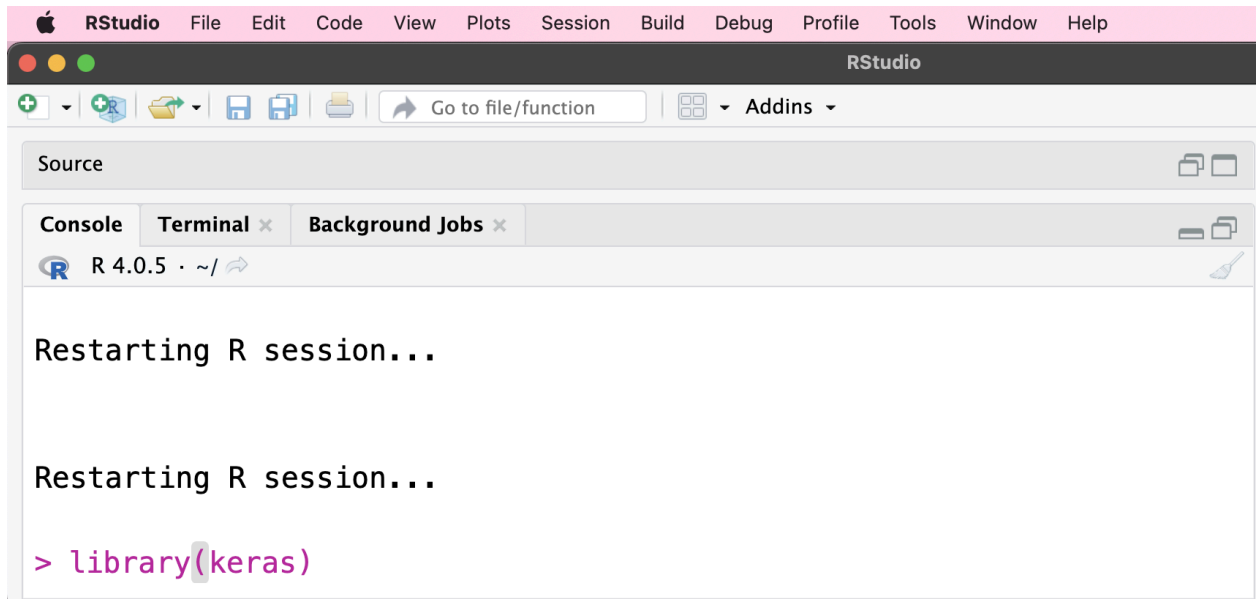


Figure 15 : Load Keras library in console

2. To check if keras is ready, load keras library in R then try:

```
model <- keras_model_sequential() > press enter
```

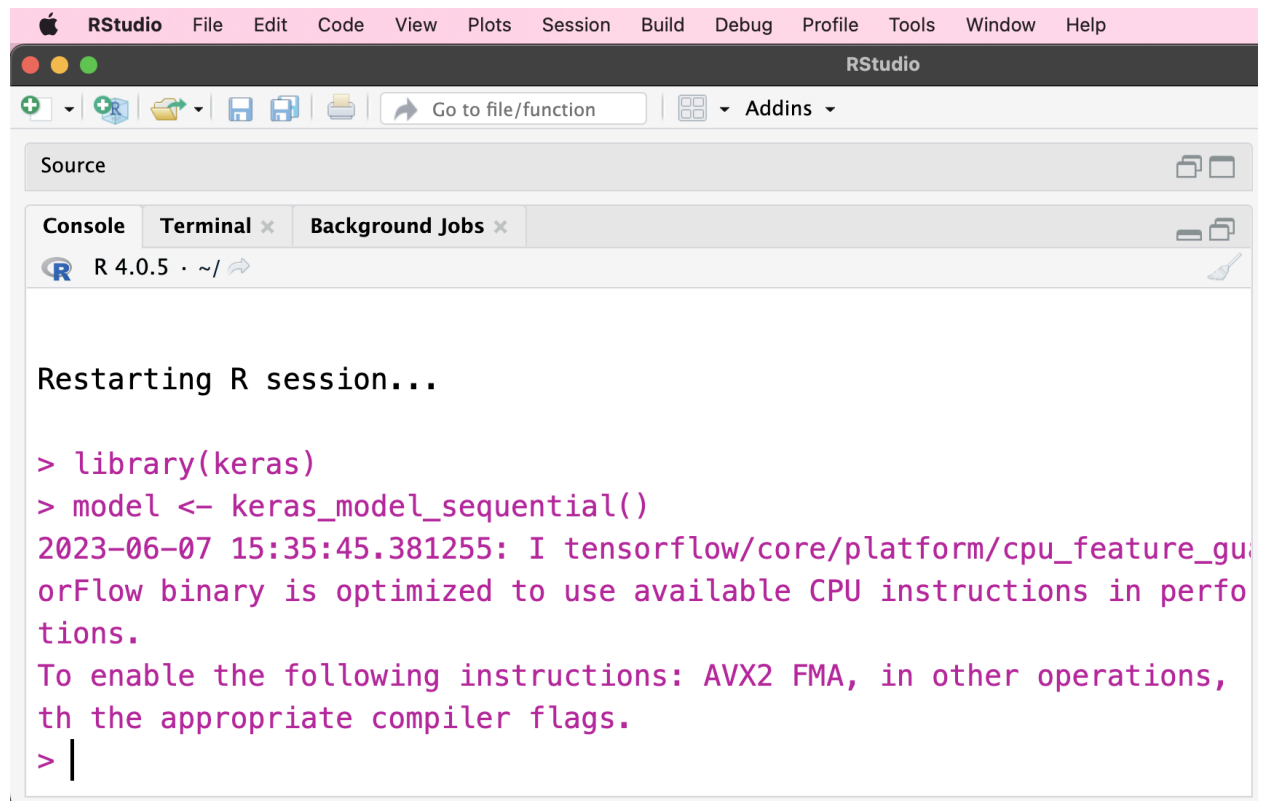


Figure 16: Verifying `keras` installation

3. If there is no error, then it is ready to use
