Installing Keras in R

Handbook Guide

September 2024

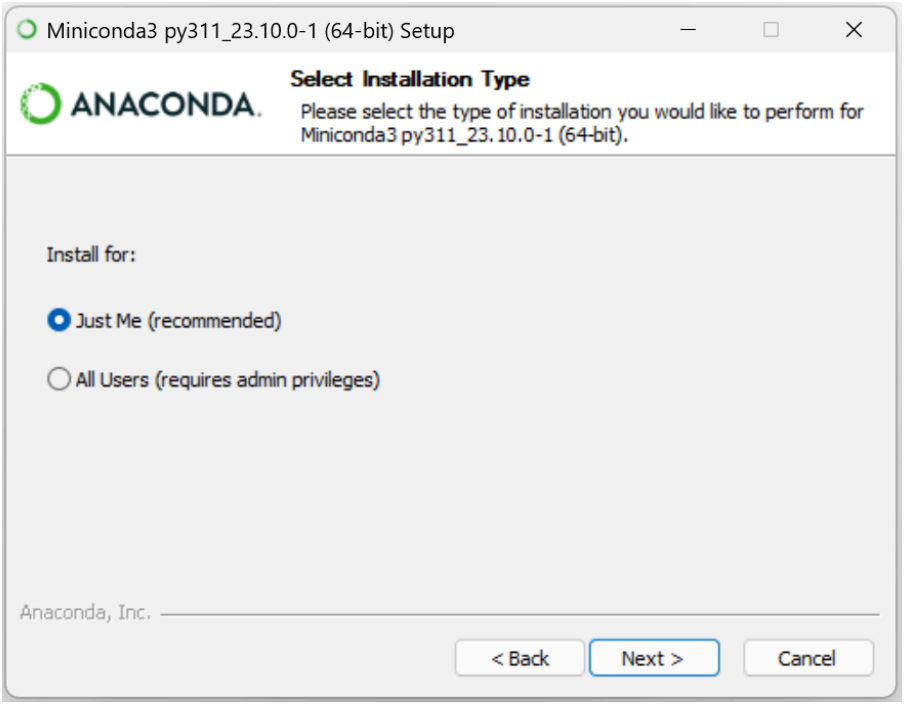
Contents

Installation

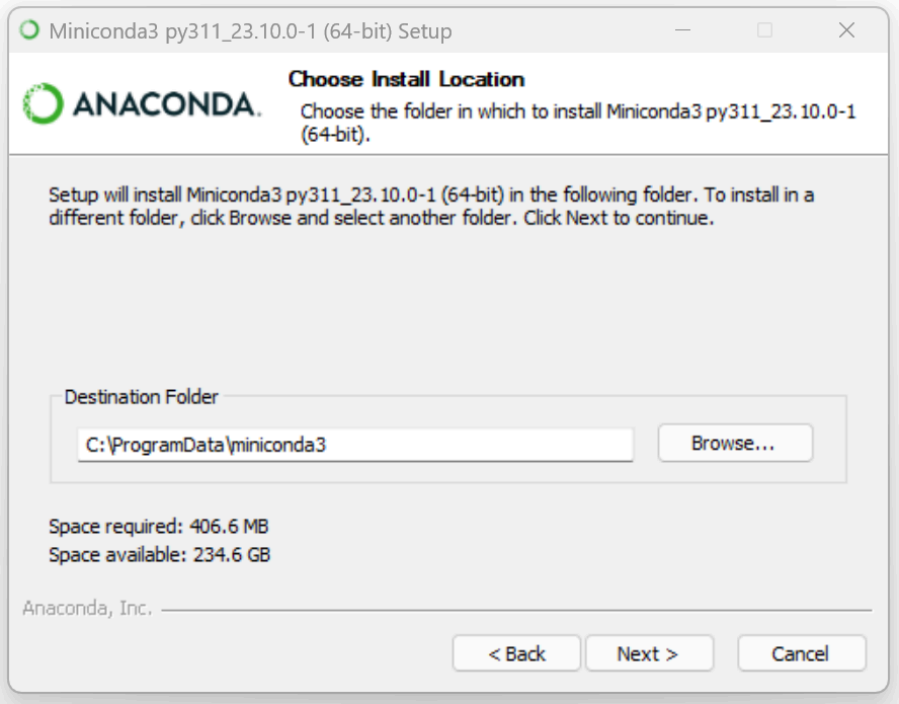
Installing Python using *Miniconda*

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:

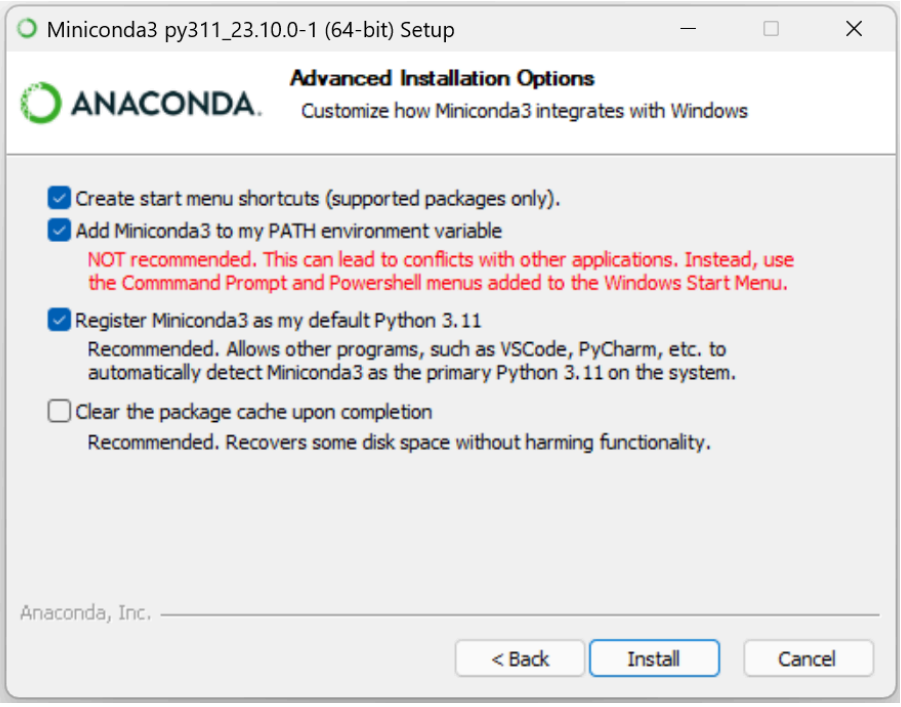
1. Open your web browser and **go to the official Miniconda download page** using this link*:* https://docs.conda.io/projects/miniconda/en/latest/
2. On the download page, you'll find options for Windows, macOS, and Linux. **Select the appropriate download link that matches your operating system.**
3. 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.

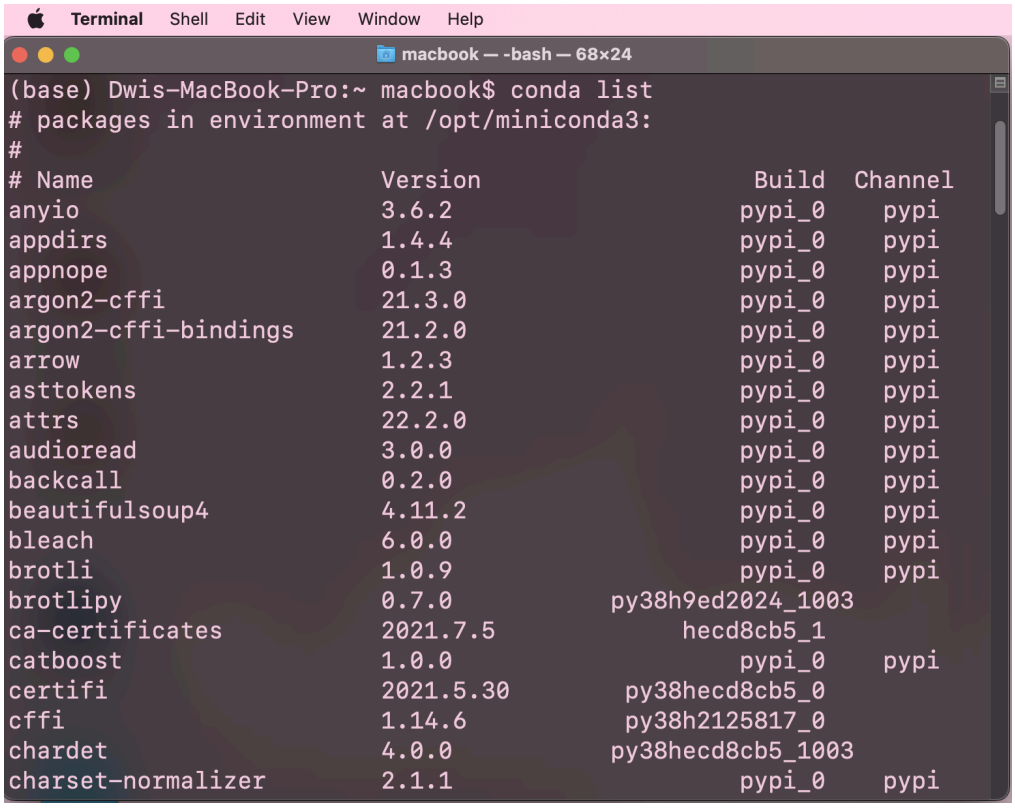


Figure 7: `conda list` Response on Mac OS X Terminal

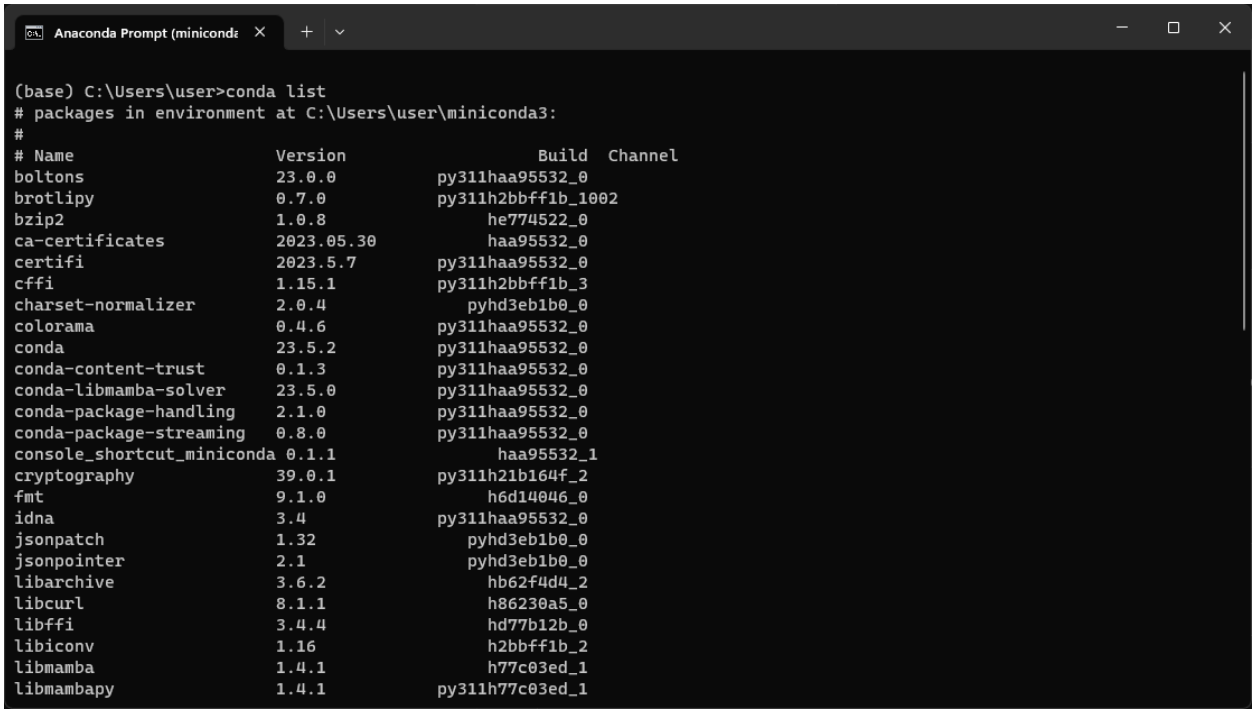


Figure 8: `conda list` Response on Anconda Prompt (miniconda3)

`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")`

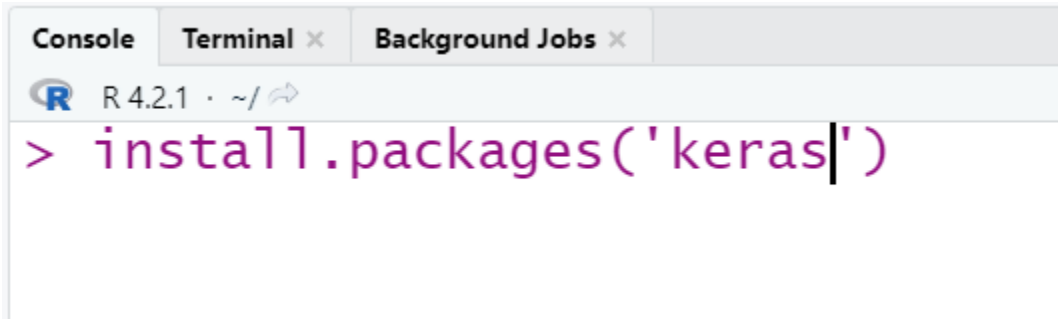


Figure 5 : Installing keras in rstudio console

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`

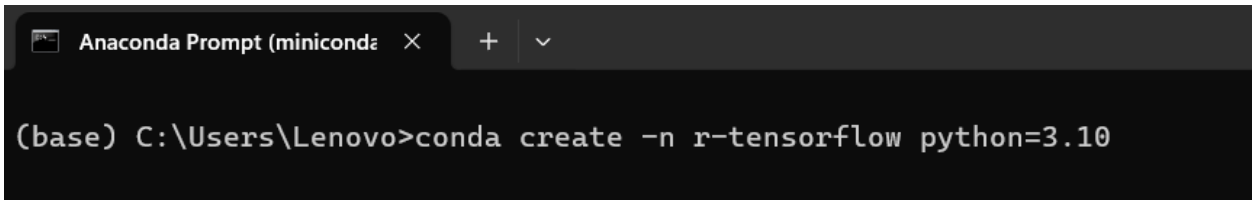


Figure 6 : creating new conda environment on windows anaconda prompt

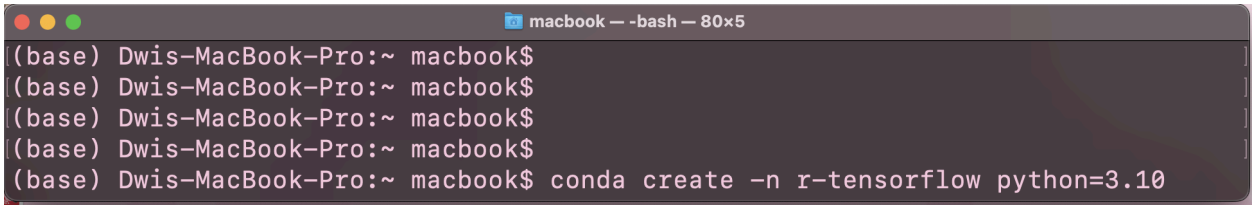


Figure 7 : creating new conda environment on MacOSX terminal

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

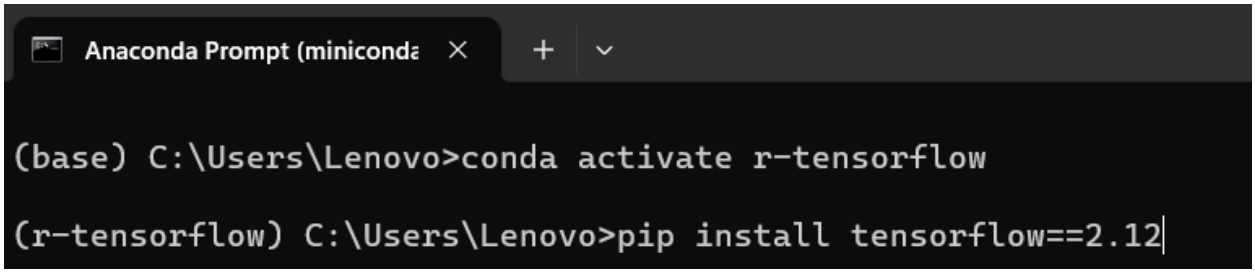


Figure 8 : Installing tensorflow library on windows anaconda prompt

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

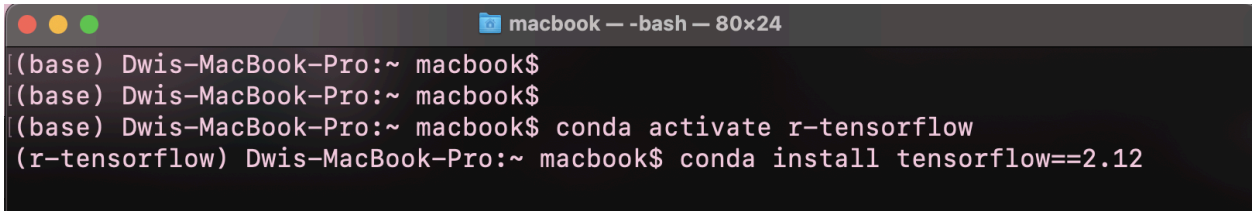


Figure 9 : Installing tensorflow library on MacOSX terminal

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

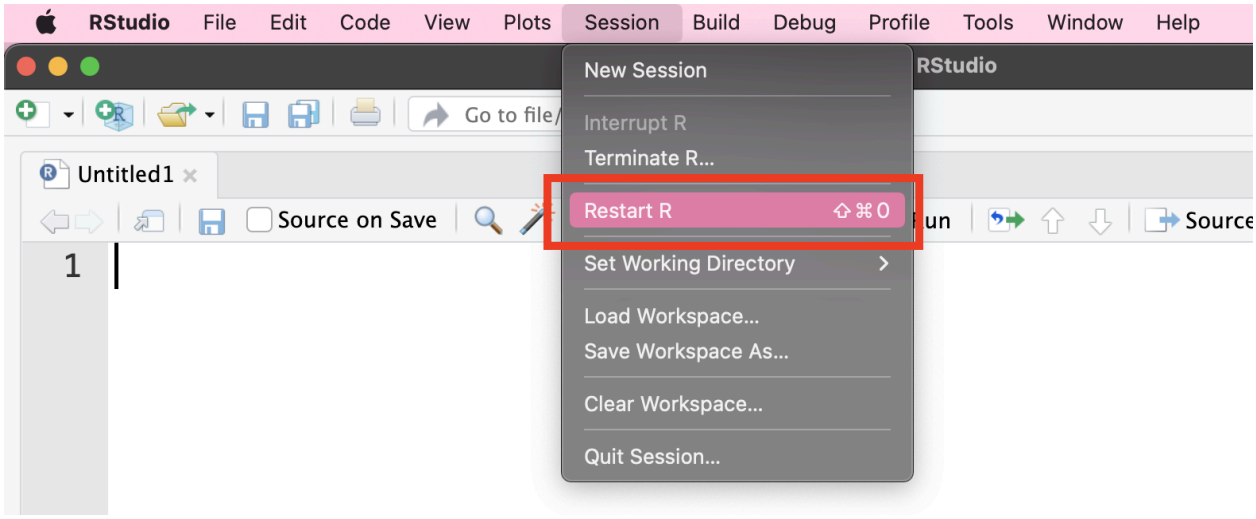


Figure 10: Restarting your R

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

Figure 9: Going to global option

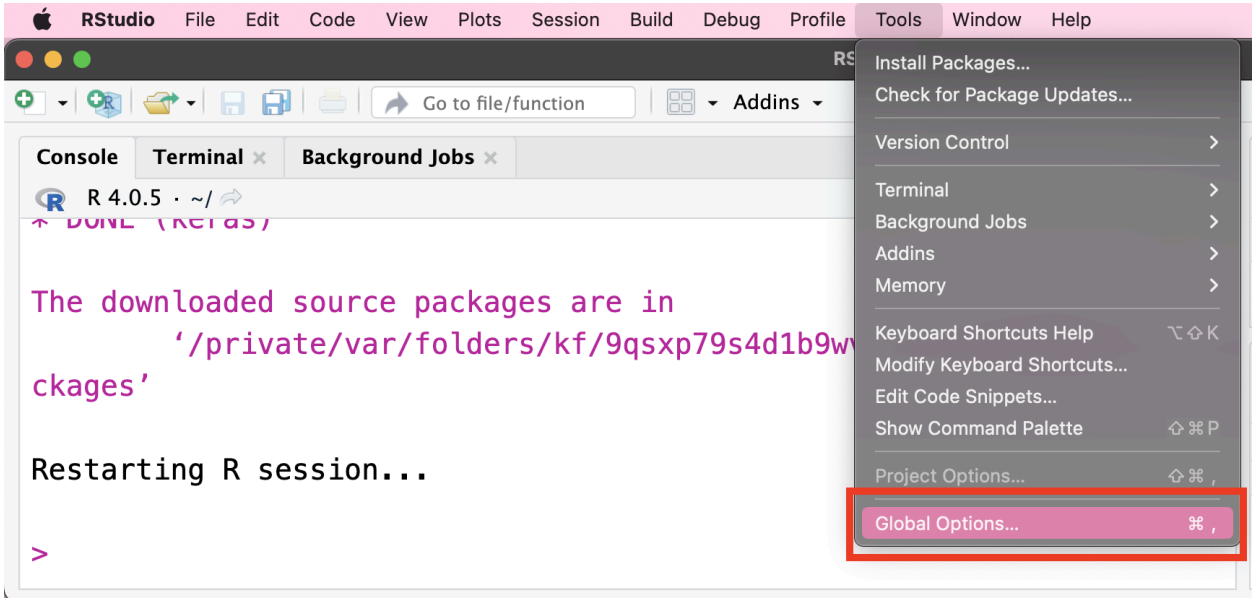


Figure 11 : Open Global Options

- Choose python then click select

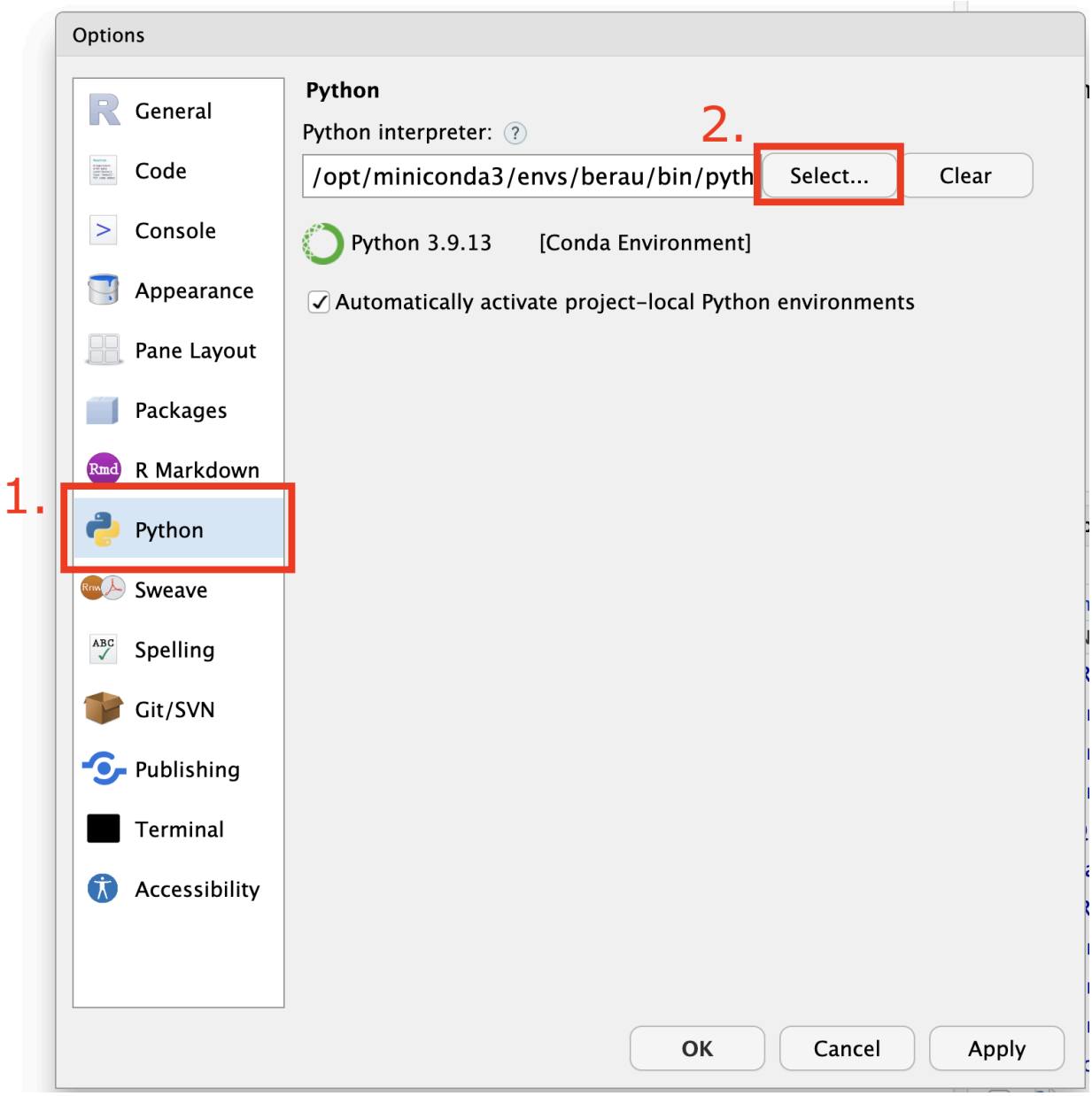


Figure 12: Going to python option

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

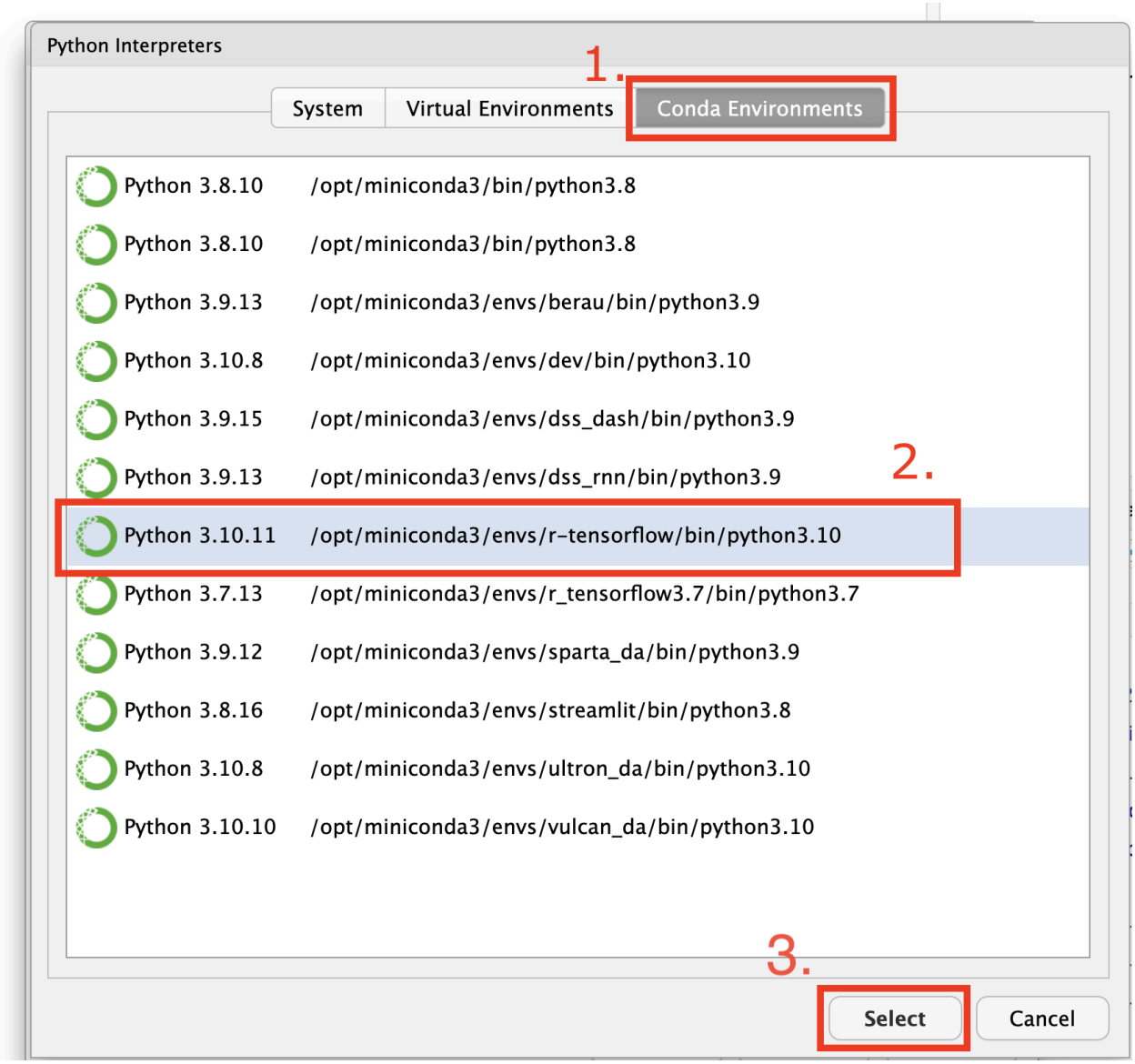


Figure 13: Choosing "r-tensorflow" environment

- Press apply then restart your R again.

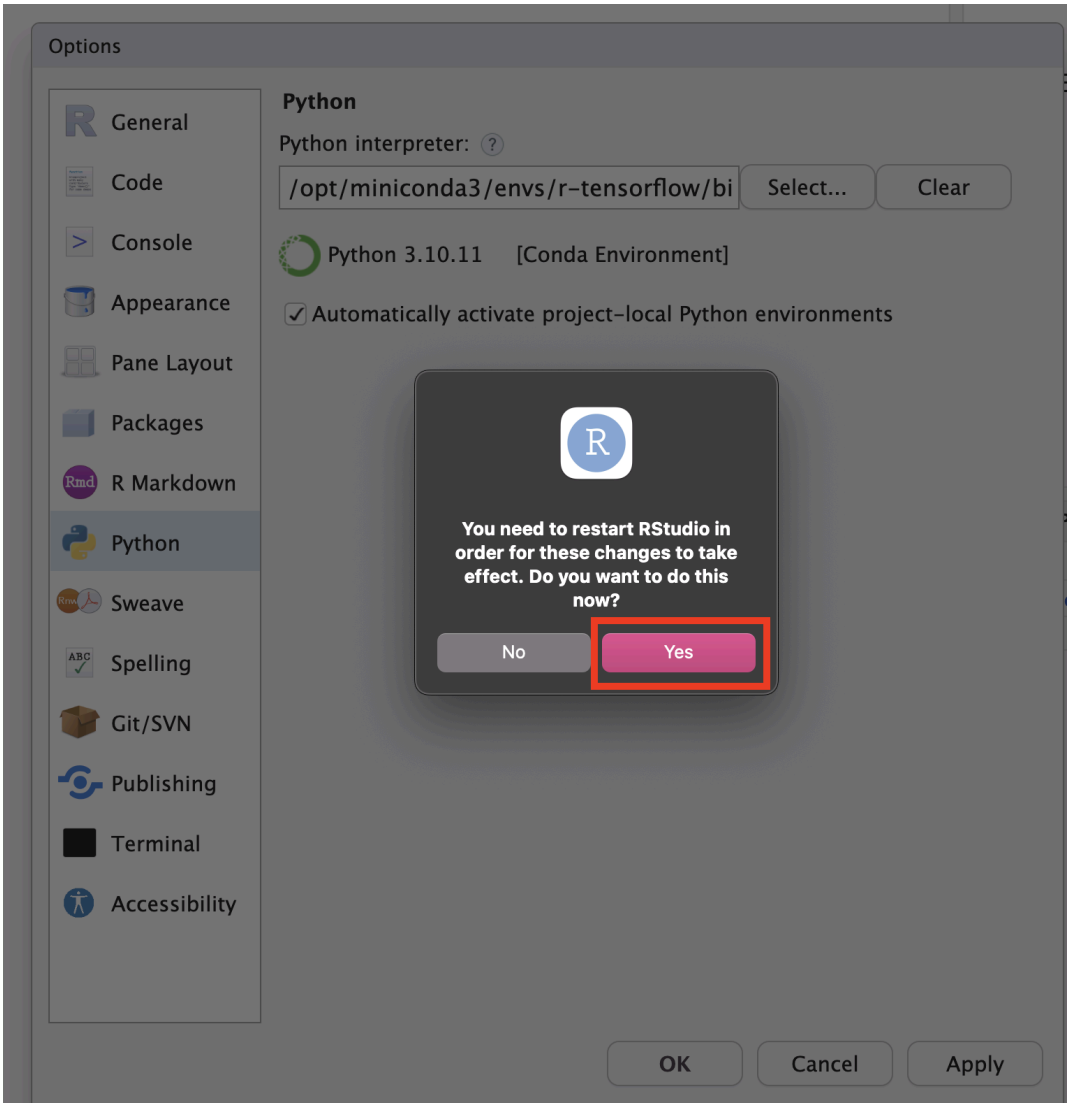


Figure 14 : Press Yes to restart RStudio

Verify `keras` Installation:

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

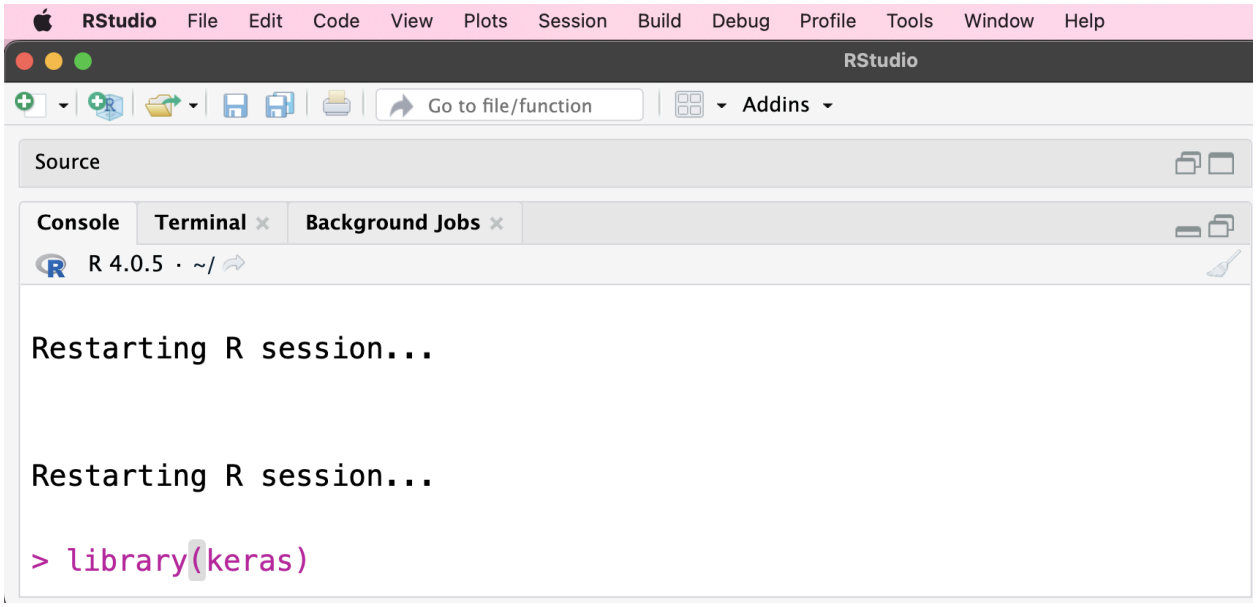


Figure 15 : Load Keras library in console

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

   `model <- keras_model_sequential()` > press enter

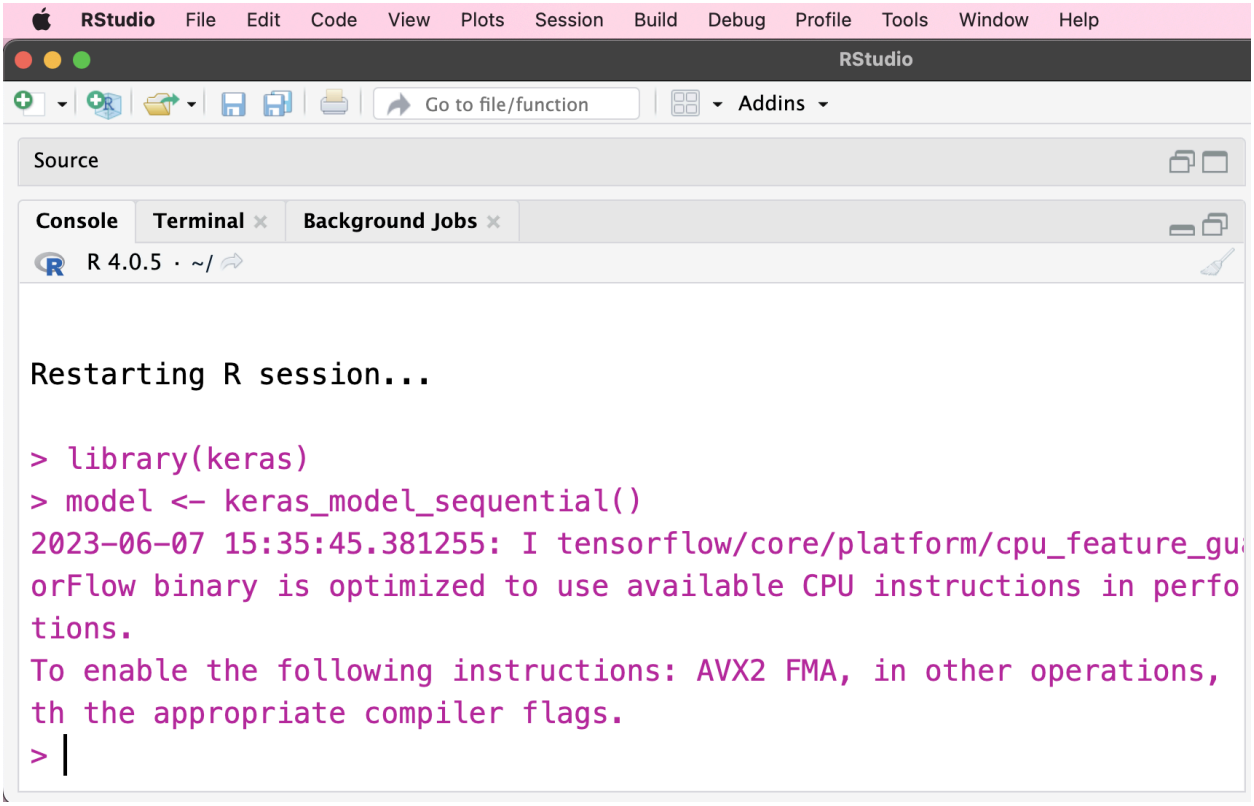


Figure 16: Verifying `keras` installation

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