Ai-powered nutrition analyzer for fitness enthusiasts

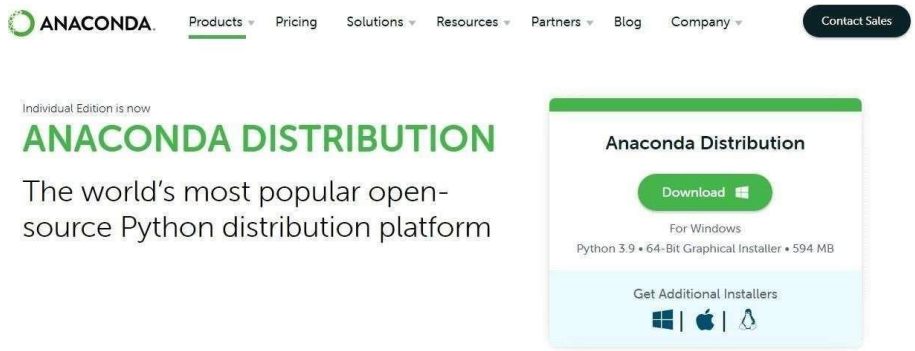
Prerequisites:

Anaconda navigator :

Anaconda is a distribution of the Python and R programming languages for scientific computing, that aims to simplify package management and deployment. The distribution includes data-science packages suitable for Windows, Linux, and macOS. It is developed and maintained by Anaconda. which was founded by Peter Wang and Travis Oliphant in 2012 As an Anaconda, it is also known as Anaconda Distribution or Anaconda Individual Edition, while other products from the company are Anaconda Team Edition and Anaconda Enterprise Edition, both of which are not free.

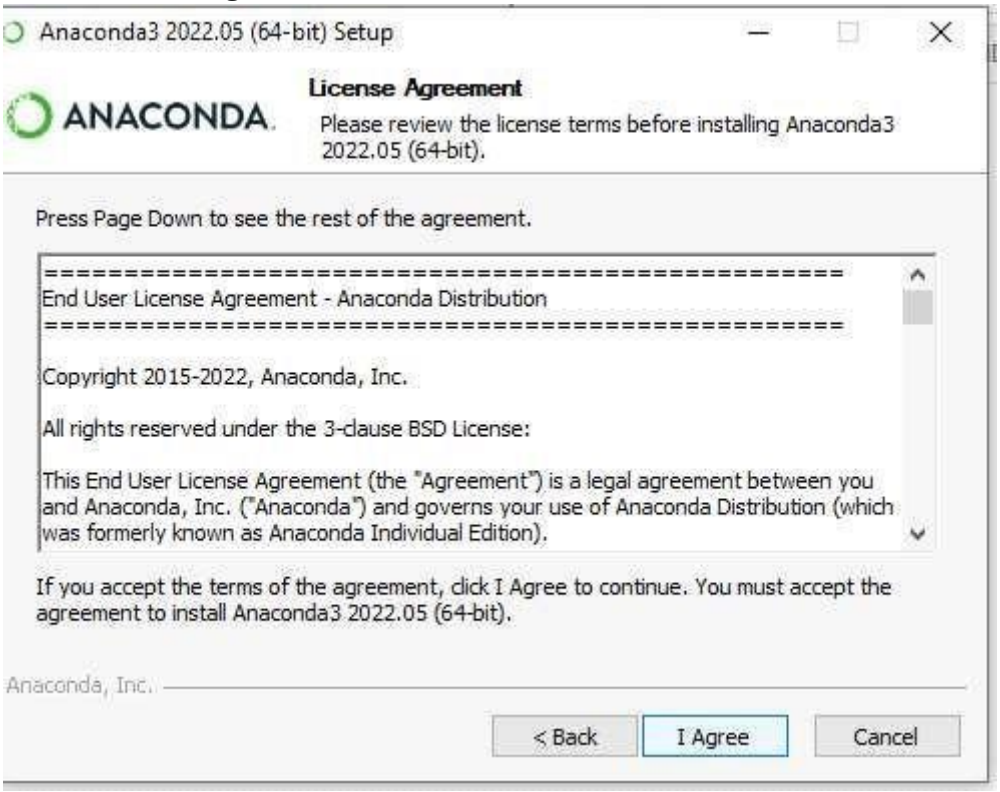
WAY TO INSTALL ANACONDA

STEP 1: Download and Anaconda

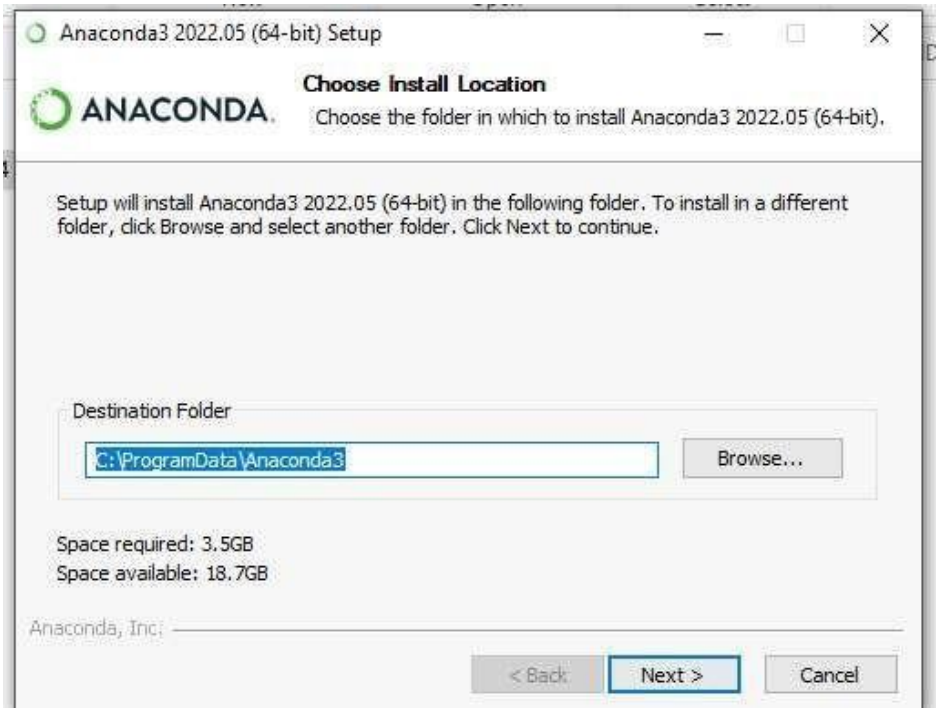


STEP 2: Install the Anaconda

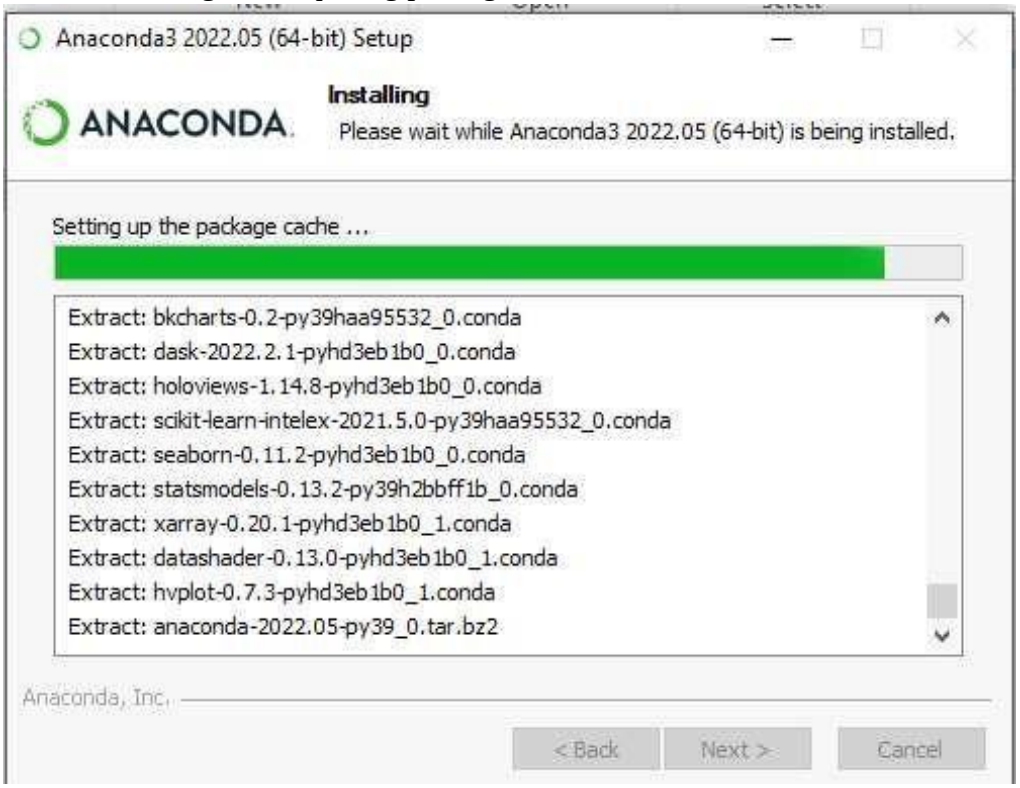
STEP 3: Click I Agree



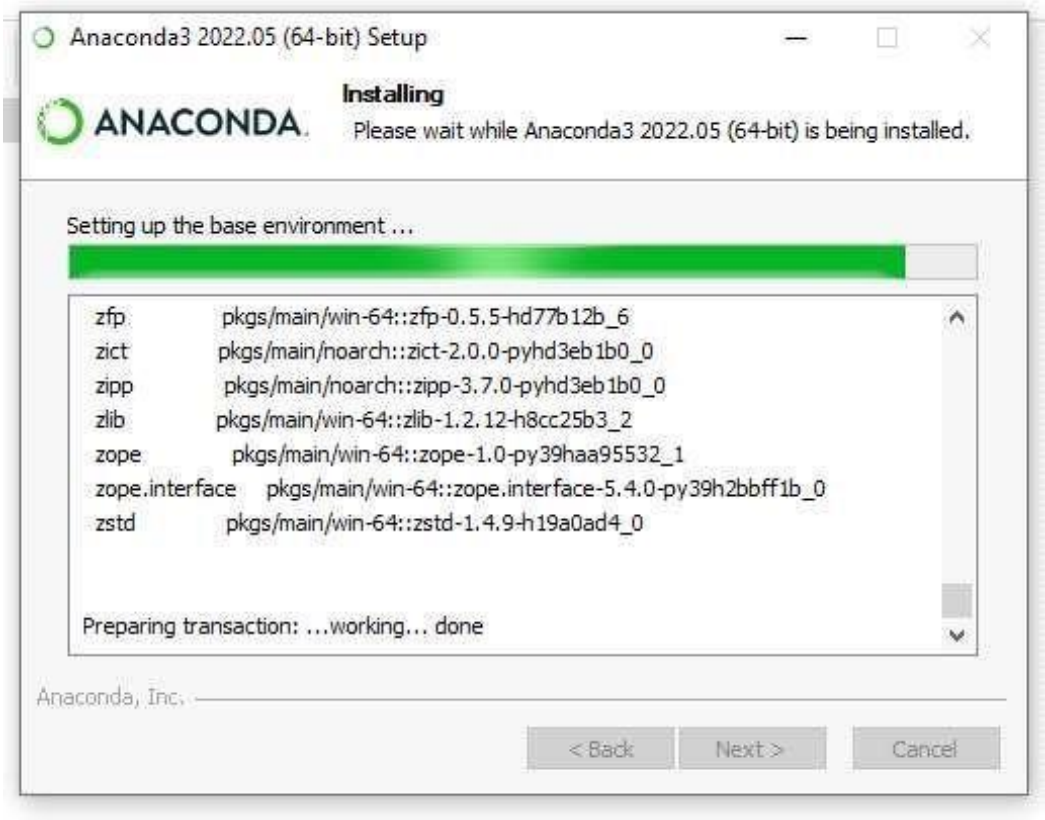
STEP 4: Choose the Installation Location



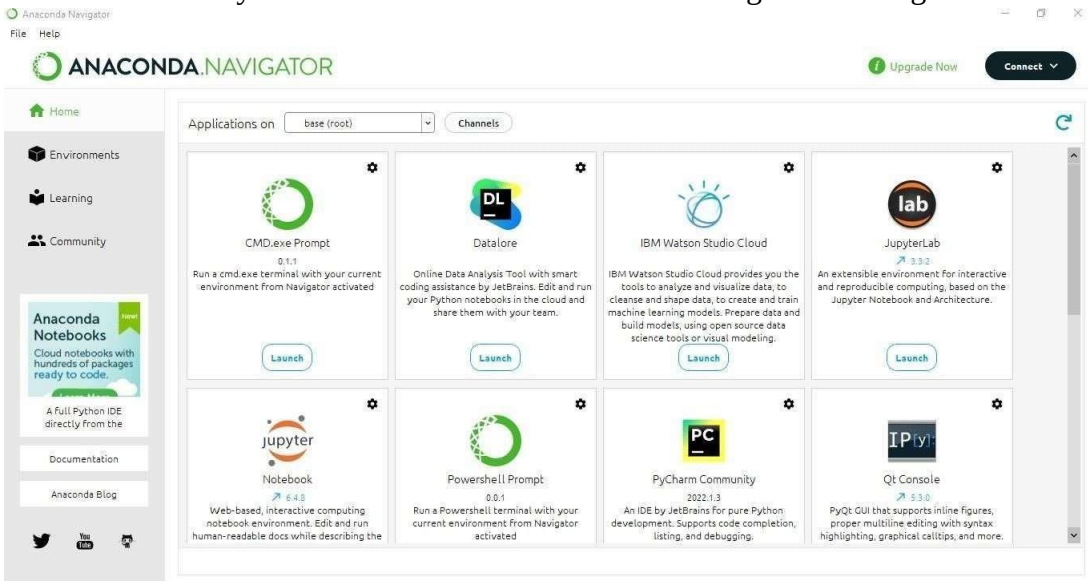
STEP 5: Installing the Requiring packages



STEP 6: Setting up the base environment



STEP 7: Succesfully Installed and check the Anacoda Navigator working or not

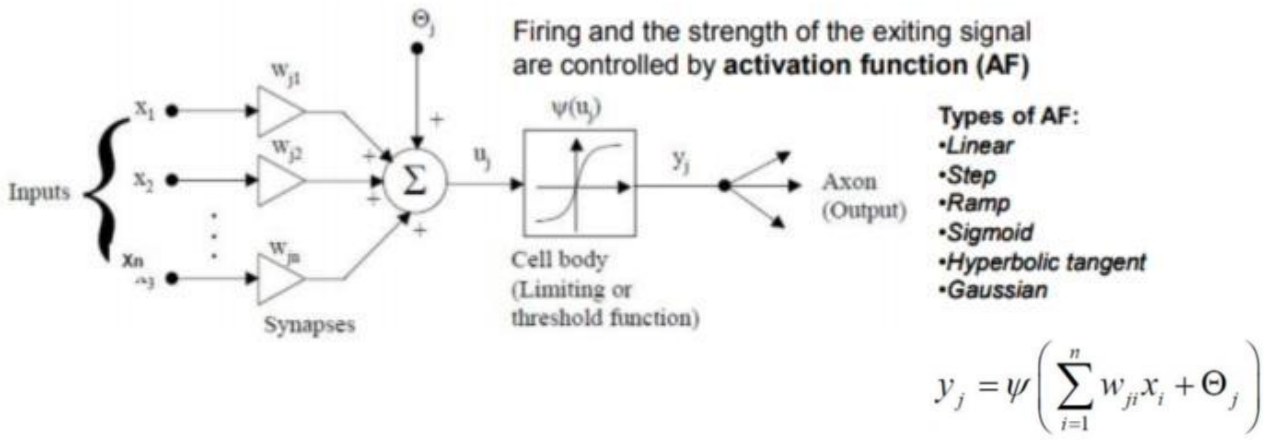


Artificial Neural Networks:

The ability to learn, memorize and still Generalize, prompted research in algorithmic Modeling of biological neural systems

Do you think that computer smarter than human Brain?
"**While successes have been achieved in modeling biological neural systems, there are still no Solutions to the complex problem of modeling intuition, consciousness and emotion – which Form integral parts of human intelligence"**…(Alan Turing, 1950)
---Human brain has the ability to perform tasks such as pattern recognition, Perception and motor control much faster than any computer---

Artificial neuron model(McCulloh-Pitts model, 1949)

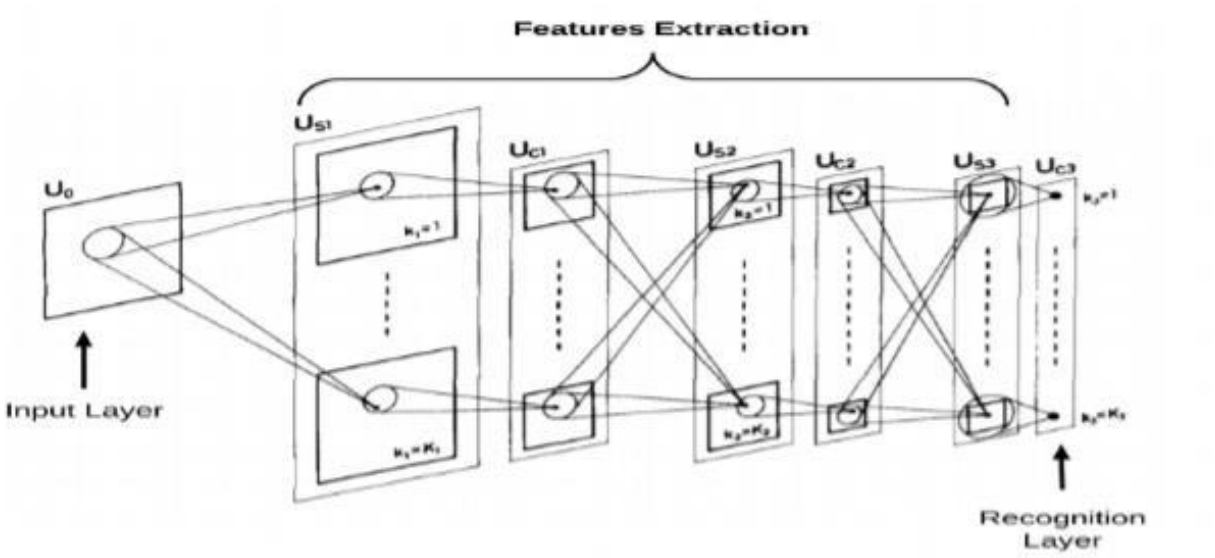


$$y_j = \psi\left(\sum_{i=1}^{n} w_{ji} x_i + \Theta_j\right)$$

Qj: external threshold, offset or bias
Wji : synaptic weights
Xi: input
Yj : output

Convolution Neural Networks :

Convolutional neural network (or CNN) is a special type of multilayer neural net-work or deep learning architecture inspired by the visual system of living beings. The CNN isvery much suitable for different fields of computer vision and natural language processing. Themain focus of this chapter is an elaborate discussion of all the basic components of CNN. Italso gives a general view of foundation of CNN, recent advancements of CNN and some majorapplication areas


Features Extraction
U0
Input Layer
US1
UC1
US2
UC2
US3
UC3
Recognition Layer