**1.Tensor Flow**

This library was developed by Google in collaboration with Brain Team. TensorFlow is used in almost every Google application for machine learning.

TensorFlow works like a computational library for writing new algorithms that involve a large number of tensor operations, since neural networks can be easily expressed as computational graphs they can be implemented using TensorFlow as a series of operations on Tensors. Plus, tensors are N-dimensional matrices which represent your data.

pip install tensorflow

**2.Scikit-Learn**

It is a Python library is associated with NumPy and SciPy. It is considered as one of the best libraries for working with complex data. It contains a numerous number of algorithms for implementing standard machine learning and data mining tasks like reducing dimensionality, classification, regression, clustering, and model selection.

conda install scikit-learn

## ****3.Keras****

. It provides an easier mechanism to express neural networks. Keras also provides some of the best utilities for compiling models, processing data-sets, visualization of graphs, and much more. Some of the most popular neural networks like CNTK can also be used

pip install keras

## ****4.PyTorch****

PyTorch is the largest machine learning library that allow developers to perform tensor computations wan ith acceleration of GPU, creates dynamic computational graphs, and calculate gradients automatically. Other than this, PyTorch offers rich APIs for solving application issues related to neural networks. This machine learning library is based on Torch, which is an open source machine library implemented in C with a wrapper in Lua

**conda install pytorch torchvision cudatoolkit=9.2 -c pytorch -c defaults -c numba/label/dev**

## ****5.LightGBM****

Gradient Boosting is one of the best and most popular machine learning library, which helps developers in building new algorithms by using redefined elementary models and namely decision trees. Therefore, there are special libraries which are designed for fast and efficient implementation of this method

pip install lightgbm

## ****6.SciPy****

## SciPy is a very popular library among Machine Learning enthusiasts as it contains different modules for optimization, linear algebra, integration and statistics. There is a difference between the SciPy library and the SciPy stack. The SciPy is one of the core packages that make up the SciPy stack. SciPy is also very useful for image manipulation

python -m pip install --user numpy scipy matplotlib ipython jupyter pandas sympy nose

## ****7.Theano****

## Theano is a popular python library that is used to define, evaluate and optimize mathematical expressions involving multi-dimensional arrays in an efficient manner. It is achieved by optimizing the utilization of CPU and GPU. It is extensively used for unit-testing and self-verification to detect and diagnose different types of errors. Theano is a very powerful library that has been used in large-scale computationally intensive scientific projects for a long time but is simple and approachable enough to be used by individuals for their own projects.

## import theano

## ****8.Sympy****

**SymPy**is a Python library for symbolic mathematics. It aims to become a full-featured computer algebra system (CAS) while keeping the code as simple as possible in order to be comprehensible and easily extensible. SymPy is written entirely in Python.

SymPy only depends on mpmath, a pure Python library for arbitrary floating point arithmetic

pip install sympy

## ****9. Pygame****

## Game programming is very rewarding nowadays and it can also be used in advertising and as a teaching tool too. Game development includes mathematics, logic, physics, AI and much more and it can be amazingly fun. In python, game programming is done in pygameand it is one of the best modules for doing so.

python3 -m pip install -U pygame --user

## ****10.Pillow****

## Python Imaging Library (abbreviated as PIL) (in newer versions known as Pillow) is a free library for the Python programming language that adds support for opening, manipulating, and saving many different image file formats. The Python Imaging Library or PIL allowed you to do image processing in Python

pip install Pillow