## Practical no.1 Install Deep learning Packages: Tensorflow, Keras, Theano and PyTorch.

In [1]:

```
pip install torch torchvision torchaudio
```

```
Collecting torch
  Obtaining dependency information for torch from https://files.pythonhost
ed.org/packages/5a/6a/775b93d6888c31f1f1fc457e4f5cc89f0984412d5dcdef792b8f
2aa6e812/torch-2.4.1-cp311-cp311-win_amd64.whl.metadata (https://files.pyt
honhosted.org/packages/5a/6a/775b93d6888c31f1f1fc457e4f5cc89f0984412d5dcde
f792b8f2aa6e812/torch-2.4.1-cp311-cp311-win_amd64.whl.metadata)
  Downloading torch-2.4.1-cp311-cp311-win_amd64.whl.metadata (27 kB)
Collecting torchvision
  Obtaining dependency information for torchvision from https://files.pyth
onhosted.org/packages/f8/69/dc769cf54df8e828c0b8957b4521f35178f5bd4cc5b8fb
e8a37ffd89a27c/torchvision-0.19.1-cp311-cp311-win_amd64.whl.metadata (http
s://files.pythonhosted.org/packages/f8/69/dc769cf54df8e828c0b8957b4521f351
78f5bd4cc5b8fbe8a37ffd89a27c/torchvision-0.19.1-cp311-cp311-win_amd64.whl.
metadata)
  Downloading torchvision-0.19.1-cp311-cp311-win_amd64.whl.metadata (6.1 k
B)
Collecting torchaudio
  Obtaining dependency information for torchaudio from https://files.pytho
nhosted.org/packages/b7/ba/6dde28d32906dba5e9a1b240c9b328f564ce3ac020c0f15
```

In [2]:

```
import torch
print(torch.__version__)
```

```
2.4.1+cpu
```

```
!pip install tensorflow
```

Requirement already satisfied: tensorflow in c:\users\admin\anaconda3\lib\si
te-packages (2.17.0)
Requirement already satisfied: tensorflow-intel==2.17.0 in c:\users\admin\an
aconda3\lib\site-packages (from tensorflow) (2.17.0)
Requirement already satisfied: absl-py>=1.0.0 in c:\users\admin\anaconda3\li
b\site-packages (from tensorflow-intel==2.17.0->tensorflow) (2.1.0)
Requirement already satisfied: astunparse>=1.6.0 in c:\users\admin\anaconda3
\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (1.6.3)
Requirement already satisfied: flatbuffers>=24.3.25 in c:\users\admin\anacon
da3\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (24.3.25)
Requirement already satisfied: gast!=0.5.0,!=0.5.1,!=0.5.2,>=0.2.1 in c:\use
rs\admin\anaconda3\lib\site-packages (from tensorflow-intel==2.17.0->tensorf
low) (0.6.0)
Requirement already satisfied: google-pasta>=0.1.1 in c:\users\admin\anacond
a3\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (0.2.0)
Requirement already satisfied: h5py>=3.10.0 in c:\users\admin\anaconda3\lib
\site-packages (from tensorflow-intel==2.17.0->tensorflow) (3.11.0)
Requirement already satisfied: libclang>=13.0.0 in c:\users\admin\anaconda3
\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (18.1.1)
Requirement already satisfied: ml-dtypes<0.5.0,>=0.3.1 in c:\users\admin\ana
conda3\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (0.4.0)
Requirement already satisfied: opt-einsum>=2.3.2 in c:\users\admin\anaconda3
\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (3.3.0)
Requirement already satisfied: packaging in c:\users\admin\anaconda3\lib\sit
e-packages (from tensorflow-intel==2.17.0->tensorflow) (23.1)
Requirement already satisfied: protobuf!=4.21.0,!=4.21.1,!=4.21.2,!=4.21.3,!
=4.21.4,!=4.21.5,<5.0.0dev,>=3.20.3 in c:\users\admin\anaconda3\lib\site-pac
kages (from tensorflow-intel==2.17.0->tensorflow) (4.25.4)
Requirement already satisfied: requests<3,>=2.21.0 in c:\users\admin\anacond
a3\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (2.31.0)
Requirement already satisfied: setuptools in c:\users\admin\anaconda3\lib\si
te-packages (from tensorflow-intel==2.17.0->tensorflow) (68.0.0)
Requirement already satisfied: six>=1.12.0 in c:\users\admin\anaconda3\lib\s
ite-packages (from tensorflow-intel==2.17.0->tensorflow) (1.16.0)
Requirement already satisfied: termcolor>=1.1.0 in c:\users\admin\anaconda3
\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (2.4.0)
Requirement already satisfied: typing-extensions>=3.6.6 in c:\users\admin\an
aconda3\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (4.12.
2)
Requirement already satisfied: wrapt>=1.11.0 in c:\users\admin\anaconda3\lib
\site-packages (from tensorflow-intel==2.17.0->tensorflow) (1.14.1)
Requirement already satisfied: grpcio<2.0,>=1.24.3 in c:\users\admin\anacond
a3\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (1.65.4)
Requirement already satisfied: tensorboard<2.18,>=2.17 in c:\users\admin\ana
conda3\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (2.17.
0)
Requirement already satisfied: keras>=3.2.0 in c:\users\admin\anaconda3\lib
\site-packages (from tensorflow-intel==2.17.0->tensorflow) (3.4.1)
Requirement already satisfied: tensorflow-io-gcs-filesystem>=0.23.1 in c:\us
ers\admin\anaconda3\lib\site-packages (from tensorflow-intel==2.17.0->tensor
flow) (0.31.0)
Requirement already satisfied: numpy<2.0.0,>=1.23.5 in c:\users\admin\anacon
da3\lib\site-packages (from tensorflow-intel==2.17.0->tensorflow) (1.24.3)
Requirement already satisfied: wheel<1.0,>=0.23.0 in c:\users\admin\anaconda
3\lib\site-packages (from astunparse>=1.6.0->tensorflow-intel==2.17.0->tenso
rflow) (0.38.4)
Requirement already satisfied: rich in c:\users\admin\anaconda3\lib\site-pac

kages (from keras>=3.2.0->tensorflow-intel==2.17.0->tensorflow) (13.7.1)
Requirement already satisfied: namex in c:\users\admin\anaconda3\lib\site-pa
ckages (from keras>=3.2.0->tensorflow-intel==2.17.0->tensorflow) (0.0.8)
Requirement already satisfied: optree in c:\users\admin\anaconda3\lib\site-p
ackages (from keras>=3.2.0->tensorflow-intel==2.17.0->tensorflow) (0.12.1)
Requirement already satisfied: charset-normalizer<4,>=2 in c:\users\admin\an
aconda3\lib\site-packages (from requests<3,>=2.21.0->tensorflow-intel==2.17.
0->tensorflow) (2.0.4)
Requirement already satisfied: idna<4,>=2.5 in c:\users\admin\anaconda3\lib
\site-packages (from requests<3,>=2.21.0->tensorflow-intel==2.17.0->tensorfl
ow) (3.4)
Requirement already satisfied: urllib3<3,>=1.21.1 in c:\users\admin\anaconda
3\lib\site-packages (from requests<3,>=2.21.0->tensorflow-intel==2.17.0->ten
sorflow) (1.26.16)
Requirement already satisfied: certifi>=2017.4.17 in c:\users\admin\anaconda
3\lib\site-packages (from requests<3,>=2.21.0->tensorflow-intel==2.17.0->ten
sorflow) (2024.7.4)
Requirement already satisfied: markdown>=2.6.8 in c:\users\admin\anaconda3\l
ib\site-packages (from tensorboard<2.18,>=2.17->tensorflow-intel==2.17.0->te
nsorflow) (3.4.1)
Requirement already satisfied: tensorboard-data-server<0.8.0,>=0.7.0 in c:\u
sers\admin\anaconda3\lib\site-packages (from tensorboard<2.18,>=2.17->tensor
flow-intel==2.17.0->tensorflow) (0.7.2)
Requirement already satisfied: werkzeug>=1.0.1 in c:\users\admin\anaconda3\l
ib\site-packages (from tensorboard<2.18,>=2.17->tensorflow-intel==2.17.0->te
nsorflow) (2.2.3)
Requirement already satisfied: MarkupSafe>=2.1.1 in c:\users\admin\anaconda3
\lib\site-packages (from werkzeug>=1.0.1->tensorboard<2.18,>=2.17->tensorflo
w-intel==2.17.0->tensorflow) (2.1.1)
Requirement already satisfied: markdown-it-py>=2.2.0 in c:\users\admin\anaco
nda3\lib\site-packages (from rich->keras>=3.2.0->tensorflow-intel==2.17.0->t
ensorflow) (2.2.0)
Requirement already satisfied: pygments<3.0.0,>=2.13.0 in c:\users\admin\ana
conda3\lib\site-packages (from rich->keras>=3.2.0->tensorflow-intel==2.17.0-
>tensorflow) (2.15.1)
Requirement already satisfied: mdurl~=0.1 in c:\users\admin\anaconda3\lib\si
te-packages (from markdown-it-py>=2.2.0->rich->keras>=3.2.0->tensorflow-inte
l==2.17.0->tensorflow) (0.1.0)

In [4]:

```
import tensorflow
print(tensorflow.__version__)
```

2.17.0

```
!pip install keras
```

```
Requirement already satisfied: keras in c:\users\admin\anaconda3\lib\site-pa
ckages (3.4.1)
Requirement already satisfied: absl-py in c:\users\admin\anaconda3\lib\site-
packages (from keras) (2.1.0)
Requirement already satisfied: numpy in c:\users\admin\anaconda3\lib\site-pa
ckages (from keras) (1.24.3)
Requirement already satisfied: rich in c:\users\admin\anaconda3\lib\site-pac
kages (from keras) (13.7.1)
Requirement already satisfied: namex in c:\users\admin\anaconda3\lib\site-pa
ckages (from keras) (0.0.8)
Requirement already satisfied: h5py in c:\users\admin\anaconda3\lib\site-pac
kages (from keras) (3.11.0)
Requirement already satisfied: optree in c:\users\admin\anaconda3\lib\site-p
ackages (from keras) (0.12.1)
Requirement already satisfied: ml-dtypes in c:\users\admin\anaconda3\lib\sit
e-packages (from keras) (0.4.0)
Requirement already satisfied: packaging in c:\users\admin\anaconda3\lib\sit
e-packages (from keras) (23.1)
Requirement already satisfied: typing-extensions>=4.5.0 in c:\users\admin\an
aconda3\lib\site-packages (from optree->keras) (4.12.2)
Requirement already satisfied: markdown-it-py>=2.2.0 in c:\users\admin\anaco
nda3\lib\site-packages (from rich->keras) (2.2.0)
Requirement already satisfied: pygments<3.0.0,>=2.13.0 in c:\users\admin\ana
conda3\lib\site-packages (from rich->keras) (2.15.1)
Requirement already satisfied: mdurl~=0.1 in c:\users\admin\anaconda3\lib\si
te-packages (from markdown-it-py>=2.2.0->rich->keras) (0.1.0)
```

```
import keras
print(keras.__version__)
```

```
3.4.1
```

In [7]:

```
!pip install theano
```

```
Collecting theano
  Downloading Theano-1.0.5.tar.gz (2.8 MB)
     --------------------------------------- 0.0/2.8 MB ? eta -:--:--
     --------------------------------------- 0.0/2.8 MB ? eta -:--:--
     - ------------------------------------- 0.1/2.8 MB 1.3 MB/s eta 0:00:0
3
     ---- ---------------------------------- 0.3/2.8 MB 2.6 MB/s eta 0:00:0
1
     -------- ------------------------------ 0.6/2.8 MB 3.0 MB/s eta 0:00:0
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     --------------------- ----------------- 1.6/2.8 MB 4.0 MB/s eta 0:00:0
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     ------------------------------- ---- 2.5/2.8 MB 5.0 MB/s eta 0:00:0
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     --------------------------------------- 2.8/2.8 MB 5.2 MB/s eta 0:00:0
0
  Preparing metadata (setup.py): started
  Preparing metadata (setup.py): finished with status 'done'
Requirement already satisfied: numpy>=1.9.1 in c:\users\admin\anaconda3\lib
\site-packages (from theano) (1.24.3)
Requirement already satisfied: scipy>=0.14 in c:\users\admin\anaconda3\lib\s
ite-packages (from theano) (1.11.1)
Requirement already satisfied: six>=1.9.0 in c:\users\admin\anaconda3\lib\si
te-packages (from theano) (1.16.0)
Building wheels for collected packages: theano
  Building wheel for theano (setup.py): started
  Building wheel for theano (setup.py): finished with status 'done'
  Created wheel for theano: filename=Theano-1.0.5-py3-none-any.whl size=2668
148 sha256=a1f8ef77bfcfc4f5e5dd59094b0dcc59d454b195687c0d1d262eec5c92dffc4e
  Stored in directory: c:\users\admin\appdata\local\pip\cache\wheels\26\1f\2
f\02d73802262646182814815 0c0354e712c4ad74f1a60f10933
Successfully built theano
Installing collected packages: theano
Successfully installed theano-1.0.5
```

In [ ]: