

✓ By Aditya Tiwari

Internship Project for Suvidha Mahila Mandal

```
1 # Install PyTorch
2 !pip install torch torchvision torchaudio
```

```

Requirement already satisfied: torch in /usr/local/lib/python3.10/dist-packages (2.3.
Requirement already satisfied: torchvision in /usr/local/lib/python3.10/dist-packages
Requirement already satisfied: torchaudio in /usr/local/lib/python3.10/dist-packages
Requirement already satisfied: filelock in /usr/local/lib/python3.10/dist-packages (f
Requirement already satisfied: typing-extensions>=4.8.0 in /usr/local/lib/python3.10/
Requirement already satisfied: sympy in /usr/local/lib/python3.10/dist-packages (from
Requirement already satisfied: networkx in /usr/local/lib/python3.10/dist-packages (f
Requirement already satisfied: Jinja2 in /usr/local/lib/python3.10/dist-packages (fro
Requirement already satisfied: fsspec in /usr/local/lib/python3.10/dist-packages (fro
Collecting nvidia-cuda-nvrtc-cu12==12.1.105 (from torch)
  Using cached nvidia_cuda_nvrtc_cu12-12.1.105-py3-none-manylinux1_x86_64.whl (23.7 M
Collecting nvidia-cuda-runtime-cu12==12.1.105 (from torch)
  Using cached nvidia_cuda_runtime_cu12-12.1.105-py3-none-manylinux1_x86_64.whl (823
Collecting nvidia-cuda-cupti-cu12==12.1.105 (from torch)
  Using cached nvidia_cuda_cupti_cu12-12.1.105-py3-none-manylinux1_x86_64.whl (14.1 M
Collecting nvidia-cudnn-cu12==8.9.2.26 (from torch)
  Using cached nvidia_cudnn_cu12-8.9.2.26-py3-none-manylinux1_x86_64.whl (731.7 MB)
Collecting nvidia-cublas-cu12==12.1.3.1 (from torch)
  Using cached nvidia_cublas_cu12-12.1.3.1-py3-none-manylinux1_x86_64.whl (410.6 MB)
Collecting nvidia-cufft-cu12==11.0.2.54 (from torch)
  Using cached nvidia_cufft_cu12-11.0.2.54-py3-none-manylinux1_x86_64.whl (121.6 MB)
Collecting nvidia-curand-cu12==10.3.2.106 (from torch)
  Using cached nvidia_curand_cu12-10.3.2.106-py3-none-manylinux1_x86_64.whl (56.5 MB)
Collecting nvidia-cusolver-cu12==11.4.5.107 (from torch)
  Using cached nvidia_cusolver_cu12-11.4.5.107-py3-none-manylinux1_x86_64.whl (124.2
Collecting nvidia-cuspars-cu12==12.1.0.106 (from torch)
  Using cached nvidia_cuspars-cu12-12.1.0.106-py3-none-manylinux1_x86_64.whl (196.0
Collecting nvidia-nccl-cu12==2.20.5 (from torch)
  Using cached nvidia_nccl_cu12-2.20.5-py3-none-manylinux2014_x86_64.whl (176.2 MB)
Collecting nvidia-nvtx-cu12==12.1.105 (from torch)
  Using cached nvidia_nvtx_cu12-12.1.105-py3-none-manylinux1_x86_64.whl (99 kB)
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Collecting nvidia-nvjitlink-cu12 (from nvidia-cusolver-cu12==11.4.5.107->torch)
  Downloading nvidia_nvjitlink_cu12-12.5.40-py3-none-manylinux2014_x86_64.whl (21.3 M
      21.3/21.3 MB 62.8 MB/s eta 0:00:00
Requirement already satisfied: numpy in /usr/local/lib/python3.10/dist-packages (from
Requirement already satisfied: pillow!=8.3.*,>=5.3.0 in /usr/local/lib/python3.10/dis
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.10/dist-pack
Requirement already satisfied: mpmath<1.4.0,>=1.1.0 in /usr/local/lib/python3.10/dist
Installing collected packages: nvidia-nvtx-cu12, nvidia-nvjitlink-cu12, nvidia-nccl-c
Successfully installed nvidia-cublas-cu12-12.1.3.1 nvidia-cuda-cupti-cu12-12.1.105 nv

```

```
1 # Install transformers
2 !pip install transformers
```



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Requirement already satisfied: transformers in /usr/local/lib/python3.10/dist-package
Requirement already satisfied: filelock in /usr/local/lib/python3.10/dist-packages (f
Requirement already satisfied: huggingface-hub<1.0,>=0.23.0 in /usr/local/lib/python3
Requirement already satisfied: numpy>=1.17 in /usr/local/lib/python3.10/dist-packages
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.10/dist-pack
Requirement already satisfied: pyyaml>=5.1 in /usr/local/lib/python3.10/dist-packages
Requirement already satisfied: regex!=2019.12.17 in /usr/local/lib/python3.10/dist-pa
Requirement already satisfied: requests in /usr/local/lib/python3.10/dist-packages (f
Requirement already satisfied: tokenizers<0.20,>=0.19 in /usr/local/lib/python3.10/di
Requirement already satisfied: safetensors>=0.4.1 in /usr/local/lib/python3.10/dist-p
Requirement already satisfied: tqdm>=4.27 in /usr/local/lib/python3.10/dist-packages
Requirement already satisfied: fsspec>=2023.5.0 in /usr/local/lib/python3.10/dist-pac
Requirement already satisfied: typing-extensions>=3.7.4.3 in /usr/local/lib/python3.1
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.10/
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-package
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.10/dist-p
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-p
```

```
1 #import & load model
2 # Importing dependencies from transformers
3 from transformers import PegasusForConditionalGeneration, PegasusTokenizer
```

```
1 # Load tokenizer
2 tokenizer = PegasusTokenizer.from_pretrained("google/pegasus-xsum")
```



```
1 # Load model
2 model = PegasusForConditionalGeneration.from_pretrained("google/pegasus-xsum")
```



```

1 text = ""
2 The Roman Empire is generally understood to mean the period and territory ruled by the
3 By 100 BC, Rome had expanded its rule to most of the Mediterranean and beyond. However
4 The first two centuries of the Empire saw a period of unprecedented stability and pros
5 Due to the Empire's extent and endurance, its institutions and culture had a lasting i

```

```

1 # Create tokens - number representation of our text
2 tokens = tokenizer(text, truncation=True, padding="longest", return_tensors="pt")

```

```

1 # Input tokens
2 tokens

```

```

{'input_ids': tensor([[ 139,  5385,  7292,   117,  1813,  5045,   112,  1021,
    109,   908,
    111,  5902,  8258,   141,   109, 17567,   645, 70425,   454,   131,
    116, 13183,   113,  5330,  2613,   365,   109, 59335, 23546,  4883,
    115,  2684,  5997,   108,   109,   450,   121, 57914,   449,   113,
    3266,  6807,   107,   168,   953, 13853,   115,  1465,   108,   892,
    1922,   108,   111,  2728,  2661,   111,   140,  8258,   141, 23587,
    116,   107,   139,  1251,   113,   109,  2728,  5385,  7292,   115,
    110, 37142,  8783, 64329,  3937,   109,   370,   113,  6925, 47764,
    111,   109,  1427,   113,   109,  3396, 18867,   107,  1060,  1061,
    5997,   108,  6807,   196,  4617,   203,  2613,   112,   205,   113,
    109,  8111,   111,  1454,   107,   611,   108,   126,   140, 11526,
    70206,   252,   141,  3541, 11144,   111,  1488,  9295,   108,   162,
    36768,   115,   109,  3669,   113, 70425,   454,   204,  2538, 49306,
    111, 56312,   134,   109,  7467,   113,  2046,  8927,   115,  3184,
    5997,   108,   111,   109,  5751, 36484,   113,   109,   881,   497,
    72837,  2288,  4096,   115,  6325,   107,   222,  2684,  5997,   108,
    109,  5385,  4533,  4571, 70425,   454, 31827,   484,   143, 42364,
    8927,   158,   111,   109,   177,  1560,   113, 51325,   108,  9834,
    169, 37961,   130,   109,   211,  5385, 23587,   113,   114, 44010,
    122,  6807,   130,   203,  5330,  1863,   107,   139,  3404,  5385,
    13853,   195,  3116,   190, 90897, 18286,   108, 13462,   141,  2717,
    25243,  5888,   116,   170,   195,  4486,   141,   367,  5724,   108,
    111, 22221, 18286,   108,   162, 18583,   112,   109, 23587,   155,
    195, 13462,   141,  3928, 19722,   107,  4101,  4876,  1100,   139,
    211,   228,  6468,   113,   109,  7292,  1148,   114,   908,   113,
    10131,  4528,   111, 12524,   606,   130,   109, 53855,  5385,   304,
    143, 12329,   107,  1034, 36580,  6766,   131,   250,  6807,  2455,
    203,  2502, 23102,  4156,   365, 16829, 14988,   143,   551,   107,
    10604,  1198, 34905,  8783,  3760,  4101, 77453, 29595, 15866,  1100,
    114,   908,   113,  2186,  2954,   111,  5088,  1219,   365,  6742,
    15195,  1579, 50465, 47780, 22076,   222,   109,   296,  2007,  1902,
    108,   109,  7292, 18793,   114,  3533,   120,  8926,   203,  4657,

```


