

Ex.no1.
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Exploring The Deep Learning Techniques platforms.

Various deep learning platforms.

Google colab:-

free Online jupyter Notebook with GPU/TPU.

+ Ideal for students, researchers, hobbyists -

* Accessible with Google colab account

Jupyter Notebook:-

• Not a framework, but an interactive coding environment.

• Combines codes, markdown, outputs.

• popular for exploration, visualization, tutorials.

key Difference between Google colab & Jupyter.

Google colab	Jupyter Notebook
cloud based platform.	local / browser-based.
Built-in free GPU/TPU.	GPU manual setup.
Runs in browser.	Anacoda + Jupyter installation.
save to google drive	manual file sharing Save to local system.

key frameworks of python, TensorFlow.

TENSOR FLOW:-

Creator/organisation: Google (2015).

main feature :- scalable across CPUs, GPUs
High-performance model training.

- Integrated keras API for simplicity visualization via TensorBoard

popular use case:- computer vision.

PyTorch - NLP & ML

PyTorch:-

organization:- facebook AI research [FAIR] (2016)

Main feature:- dynamic computational graph native Python syntax strong GPU accelerating support

popular use cases:-

Research & Academic projects.

fast model prototyping.

Graph type:- Dynamic.

CODING:-

① >>> pip install tensorflow - for installation

> tensorflow.keras - high level for building models.

> tensorflow_hub - pre trained models.

② >>> pip install torch torchvision torchaudio.

> torchvision - Image dataset

> torch.nn - neural network layer

> torch.text - NLP & Text based layer.

> torch.audio - Audio processing.

painting from comming drift

Conclusion:-

Analysed various platforms and framework in
deeplearning.

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including

CNN deepest layer . 1

CNN shallow layer . 2

CNN deepest layer . 3

CNN shallow layer . 4

2 plots 0.01×2 steps] iteration
over over

plots of various frameworks