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மரம் வளர்ப்போம்
மண் வளம் காப்போம்

Superior® Note Books

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Subject : DL

Std. : ..... Sec. : ..... Roll No. .....

School : .....

No.	Date	Title	Marks	Signature
1	24/7/25	Exploring the DL ~~platforms~~.		
2	31/7/25	Implement a classifier using open source dataset		
3	7/8/25	Study the classifier with respect to statistical parameters.		

24/7/25

Exploring Deep learning platforms

Aim:

To explore Deep learning platforms.

Objective:

To explore various deep learning tools such as Tensorflow, PyTorch, keras & Google colab, and understand their key features, installation setup & usability for implementing deep learning models.

Platforms Explored:

1) Tensor flow = Developed by google, support both CPU & GPU processing used for building & training neural networks.

2) PyTorch = Developed by Facebook, offers dynamic computational graphs, more flexible & Pythonic

3) Keras = A high level API that runs on top of Tensorflow, Easy to use for beginners.

4) Google Colab = cloud based Jupyter notebook with free access to GPUs, support Tensorflow and PyTorch out of the box.

platform	Creator	Main features	popular use case
Tensorflow	Google	Scalable, Production ready. Supports TF Lite, TensorBoard	Mobile apps, NLP, Image creation, Health care AI.
PyTorch	Facebook	Dynamic computation graph, easy debugging. Pythonic syntax.	Research, academic projects, realtime vision application
Keras	Initially independent now part of Tensorflow	High-level API easy model building runs on Tensorflow backend	Quick prototyping, beginner projects
Google Colab	Google	Free GPU/TPU, browser-based, no setup needed	Education, experimentation, training DL models
Jupyter Notebook	Project Jupyter (open source)	Interactive code execution, visualization, supports many languages via kernels	Data science, visualization, model testing.

Tensorflow :

5) Jupyter Notebook = Interactive code execution, visualization, supports many languages via kernels. Data science visualization, model testing.

Graph Type:

1) TensorFlow = Static
2) PyTorch = Dynamic
3) Keras = Abstracted
4) Google colab = N/A (platform not framework)
5) Jupyter Notebook = N/A (IDE / interface)

Key learnings:

- understood the difference between static & dynamic graphs.
- Explored advantages of Google colab for free GPU usage without local setup.
- Learned how Keras simplifies deep learning model creation
- Practiced running scripts in both local & cloud environments.

Conclusion / Result:

Exploring different DL platforms helped understand their features, setup & usage: Running basic scripts in TensorFlow & PyTorch gave hands on experience with model building.