1: Exploring the Deeplearning platforms

(i) Platform : Tensorflow

Creator / organization : Google Brain

Main features : Scalable, supports static graph and dynamic, strong Production tools like Tensorflow serving and TFLite

Popular Use cases : Image classification, NLP, Production deployment

(ii) Platform : PyTorch

Creator : Facebook AI Research (FAIR)

Main features :

Dynamic Computation graph, intuitive Pythonic code, great debugging support

Popular Use Cases : Research, NLP, GANs's, Computer Vision

Key differences :

Dynamic graph (also called as define-by-run means the model is built as code runs (more flexible for reasearchers to try new ideas)

Tensorflow :

Key differences :

In tensor flow (V_1), first we must build the entire model before running it — called as static graph and it is harder to debug. In Tensorflow (V_2), Code runs step by step with dynamic behaviour, it is easily understand and we can fix the errors

(iii) Platform : Google Colab

Creator : Google Research

Main Features : Free Cloud-based Jupyter notebook with GPU / TPU Support

Popular Use cases : Quick Prototyping, deep learning training without local setup

Key differences :

Google Colab runs in a browser, so there's no need to install anything and it is ideal for sharing notebook online.

(iv) Platform : Jupyter Notebook

Creator : Project Jupyter

Main Features : Interactive notebook interface, supports many languages via kernel

Popular Use Cases : Data analysis, ML experiments, Visualization

Key differences :

Jupyter Notebook runs on our local machine, giving full control over files & resources. It is highly customizable.

Result : Explored various deep learning platform