Exploring Deep Learning Platform

Aim :

The aim is to explore deep learning platform

Description:

1) What is A.I ? (Artificial Intelligence)

The science of making machines think and act like human

2) What is ML ? (Machine Learning)

A Subset of AI where machines learn from data without being explictly programmed.

3) What is DL ? (Deep Learning)

A Subset of ML that uses neural network with many layers to learn complex patterns

Procedure :

i) Tensorflow + keras

Tensorflow : A powerful open-source library by Google for building and running machine learning models.

Keras : A user-friendly, high-level API that runs on top of Tensorflow to make building deep learning models easier and faster.

Advantages

* Easy to build and experiment with neural network
* Supports running on cpu's, GPu's and even mobile devices.
* Huge community and lots of tutorials
* Scalable from small projects to big production systems.

Disadvantages

* Can be complex for absolute beginners if you dive deep into Tensor flow's low-level API.
* Some times slower compared to specialized frameworks
* Debugging complex models can be challenging.

ii.) Pytorch:

Its a tool to help computers learn from data by building smart models. Pytorch is popular because its like writing normal Python code. very flexible and easy to change while running.

Advantages:

* Easy to use: feels natural
* Flexible: can change the model anytime during training
* Good for research
* lots of help: tutorials and community support.

Disadvantages:

* Smaller number of extra tools and extensions
* Can use more computer memory when training
* Not as ready for big real-world apps compared to Tensorflow.

Result:

Explored Deep learning platform. Deep learning models successfully learned from data. Pytorch was easier for experiments: Tensorflow + keras was better for deployment.