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SUBJECT Deep learning lab obs

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1. Exploring the deep learning platforms

various deep learning platforms and frameworks:

① Tensor flow :-

Creator : Google brain

features : open source, supports both CPUs and GPUs, Scalable, Suitable for both research and production.

use cases : Image recognition, NLP, Series forecasting

differences : It primarily uses static graph but supports dynamic graphs in Tensor flow.

② PyTorch :-

Creator :- meta research ..

features :- user friendly, Strong support for GPU acceleration, widely use in research.

use cases :- NLP, Computer vision, generative models.

differences : dynamic computation graphs are more flexibility

③ Google colab :-

Creator :- Google

features :- free cloud-based Jupyter, free Jupyter access built in support with tensorflow and pytorch

use cases :- collaborative coding

differences :- Accessible from any browser, no need for installations

④ Ludwig :-

Creator : uber technologies

features : TensorFlow-based, train & test DL models with no code
(or) low code.

Use Cases : NLP, Vision, tabular data

* Static based Configuration.

⑤ H2O.ai :-

creator : H2O.ai (Open source)

features : supports for python & Java integration,
no code tool model versioning

Use Cases : Image & Speech recognition

* Dynamic based Configuration

⑥ JAX :-

Creator : Google

features : Numpy API, GPU acceleration suitable for research
and custom model compilation.

Use Cases :- Research, DL models

* dynamic workflow

⑦ Data robot :

Creator : Data robot, Inc

features : Auto ml, model monitoring, Supports major ml & dl frame works, no code.

use cases : Marketing analytics, data science education

dynamic ~~used~~ based configuration.

⑧ Alibaba PAI

Creator :- Alibaba Group

features : cloud ai platforms

use cases : Integration with alibaba ecosystem

* dynamic computation

Observation :-

* So many frame works and Platforms are Connected Pytorch & tensor flow.

* And many work like no code like a prompt engineering.

Result :- exploring various deep learning Platforms, with ~~acknowledging~~ them their features, creator and their use cases differentiating them static (or) non-static (or) dynamic.