Deep learning is a type of machine learning that uses artificial neural networks to teach computers to process data like the human brain:

* **How it works**

Deep learning models are trained on large amounts of data to recognize patterns and relationships, identify and classify phenomena, and make predictions and decisions

LP2

Feedforward neural networks (FNNs) are a type of artificial neural network (ANN) that process information in one direction, from input to output, without loops. They are made up of layers of neurons, where each neuron is a single logistic unit.

TensorFlow is an open-source machine learning library developed by Google, used for building and training deep learning models

Keras is an open-source high-level neural networks API that can run on top of TensorFlow, Theano, or other deep learning frameworks.

Keras is user-friendly, with a simple and consistent API.

Used for **quickly building and testing neural network models**.

PyTorch is an open-source deep learning framework developed by Facebook's AI Research lab.

computation graph allows for easy debugging and dynamic changes during runtime.

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7)

Transfer learning in CNN architectures is a technique that uses pre-trained models to improve the efficiency and accuracy of deep learning models.

5)

An autoencoder is made up of two main parts:

* **Encoder**: Compresses the input data into a latent-space representation
* **Decoder**: Expands the low-dimensional data back into high-dimensional data

4)

epoch is the number of times a training dataset passes through an algorithm.

5)

**Precision**: It indicates how many of the predicted positive cases are actually positive.

**Recall:** how many of the actual positive cases the model successfully identifie

**F1-Score**:The harmonic mean of precision and recall, balancing the trade-off between the two.

**Support**:The number of actual occurrences of each class in the dataset.