

15 deep learning models:

1. Feedforward Neural Network

(FNN):

A simple neural network where information moves in one direction from input to output, used for basic classification and regression tasks.

2. Convolutional Neural Network

(CNN):

A neural network primarily used for image and video processing, employing convolutional layers to detect spatial patterns.

3. Recurrent Neural Network

(RNN):

A neural network designed for sequential data,

where previous outputs are used as inputs for the next step.

4. Long Short-Term Memory (LSTM) :

An advanced RNN designed to capture long-range dependencies and solve the vanishing gradient problem.

5. Gated Recurrent Unit (GRU) :

A variant of LSTM that simplifies the architecture by combining the forget and input gates into a single update gate.

6. Generative Adversarial Network (GAN) :

composed of a generator and a discriminator, GANs are used for generating

realistic synthetic data
through adversarial training.

7. Autoencoder:

A neural Network used for unsupervised learning, compressing input data into a lower-dimensional representation and then reconstructing it.

8. Variational Autoencoder (VAE):

A generative model that learns to encode data into a latent space for probabilistic reconstruction and synthesis.

9. UNet:

A CNN designed for biomedical image segmentation.

10. You Only Look Once (YOLO):

A real-time object detection model.

11. AlexNet:

A convolutional neural network (CNN) that popularized deep learning for image classification.

12. VGGNet:

A CNN known for its simplicity and depth, using small convolutional filters.

13. ResNet:

A deep CNN that introduced skip connections to solve vanishing gradient issues.

14. Inception: (GoogLeNet)

A CNN using multi-scale feature extraction with inception modules.

15. Transformer:

A model architecture that uses self-attention for sequence-to-sequence tasks.