Machine Learning

1:- Linear Regression

A regression model that predicts a continuous target variable by establishing a linear relationship between input features and the target.

2. Logistic Regression

. A classification Algorithm used for binary outcomes, Predicting probabilities using the sigmoid functions.

3. Decision Tree

A Tree like structure that splits data into subset based on feature values for classification or regression tasks.

4. Random Forest

An ensembles model that combines multiple decision trees to improve accuracy and reduce overfitting.

5. Support Vector Machine

A classification and regression algorithms that finds the hyperline best separating data points in high dimensional space.

6. K-Nearest Neighbors

A simple Algorithms that classifies data points based on the majority classes of their nearest neighbors.

7. Naive Bayes

A probabilistic classifier based on Bayes Theorem, assuming independence between features.

8. Gradient Boosting Machine

An ensemble techniques that builds sequential models to correct the errors of the previous ones, such as XGBoost.

9. Artificial Neural Networks

Inspired by biological neurons, these network consists of layers of interconnected nodes to model complex patterns.

10. Convolutional Neural Networks

Specialized ~~net~~ neural networks for image and video data.

11. Recurrent Neural Networks

Designed for sequential data like time series or text.

12. K-Means Clustering

An unsupervised learning algorithm that partitions data into cluster based on similarity.

13. Principal Component Analysis

A dimensionality reduction technique that projects data into a lower dimensional space while preserving variance.

14. Auto encoders

Neural Networks used for unsupervised learning to encode data into compressed form.

15. Reinforcement Learning

A framework where agents learn optimal behaviours by interacting with an environment and receiving rewards.

Deep Learning

1. Long Short Term Memory

A type of RNN that handles long term dependencies using memory cells.

2. Gated Recurrent Unit

A simplified version of LSTM faster and efficient for sequential tasks.

3. Generated Adversarial Network

Comprises a generator and a discriminator, used for generating realistic data.

4. Autoencoder

An unsupervised model that compresses data into latent space and reconstructs it.

5. Transformers

Powering models like GPT and BERT, excels in handling long range dependencies in text.

6- BERT

A transformer based model that understands the context of text bidirectionally.

7- GPT

Focuses on generating text by predicting the next word in a sequence.

8- You Only Look Once (Yolo)

Real Time Object detection model that identifies multiple objects in image.

9- Residual Network (ResNet)

Uses skip connections to train very deep neural networks effectively.

10- VGGNet

A deep convolutional Network with uniform layer configurations for image tasks.

11. U-Net

Designed for biomedical image segmentation with encoder-decoder architecture.

12. Deep Belief Network

A stack of restricted Boltzmann machines (RBMs) for unsupervised learning.

13. MobileNet

A lightweight CNN optimized for mobile and embedded vision applications.

14. EfficientNet

A family of CNN architectures optimized for high accuracy with fewer parameters.

15. AlexNet

A pioneering deep CNN that won the 2012 ImageNet compitition, sparking the modern deep learning revolution.