List of All Machine Learning Algorithms

>>> list of common supervised learning algorithms :-

1. Linear Regression
2. Logistic Regression
3. Decision Trees
4. Random Forests
5. Support Vector Machines (SVM)
6. Naive Bayes
7. K-Nearest Neighbors (KNN)
8. Neural Networks (including deep learning)
9. Gradient Boosting Machines (e.g., XGBoost, LightGBM, CatBoost)
10. AdaBoost
11. Linear Discriminant Analysis (LDA)
12. Quadratic Discriminant Analysis (QDA)
13. Gaussian Process Regression
14. Elastic Net
15. Ridge Regression
16. Lasso Regression
17. Partial Least Squares Regression
18. Ordinal Regression
19. Poisson Regression
20. Bayesian Linear Regression
21. Extreme Learning Machines
22. Regularized Greedy Forests
23. Rotation Forests
24. Gaussian Naive Bayes
25. Multinomial Naive Bayes
26. Bernoulli Naive Bayes

>>> list of common unsupervised learning algorithms :-

1. K-Means Clustering
2. Hierarchical Clustering
3. DBSCAN (Density-Based Spatial Clustering of Applications with Noise)
4. Principal Component Analysis (PCA)
5. Independent Component Analysis (ICA)
6. t-SNE (t-Distributed Stochastic Neighbor Embedding)
7. Autoencoders
8. Self-Organizing Maps (SOM)
9. Gaussian Mixture Models (GMM)

10. Latent Dirichlet Allocation (LDA)
11. Apriori Algorithm
12. UMAP (Uniform Manifold Approximation and Projection)
13. Expectation-Maximization (EM) Algorithm
14. Mean Shift Clustering
15. Affinity Propagation
16. Spectral Clustering
17. One-Class SVM
18. Isolation Forest
19. Local Outlier Factor (LOF)
20. Restricted Boltzmann Machines (RBM)
21. Non-Negative Matrix Factorization (NMF)
22. Singular Value Decomposition (SVD)
23. Word2Vec (for Natural Language Processing)
24. BIRCH (Balanced Iterative Reducing and Clustering using Hierarchies)
25. OPTICS (Ordering Points To Identify the Clustering Structure)

>>> list of common Reinforcement Learning (RL) algorithms :-

1. Q-Learning
2. SARSA (State-Action-Reward-State-Action)
3. DQN (Deep Q-Network)
4. Policy Gradient Methods
5. Actor-Critic Methods
6. Proximal Policy Optimization (PPO)
7. Trust Region Policy Optimization (TRPO)
8. A3C (Asynchronous Advantage Actor-Critic)
9. DDPG (Deep Deterministic Policy Gradient)
10. TD3 (Twin Delayed DDPG)
11. SAC (Soft Actor-Critic)
12. REINFORCE
13. Monte Carlo Methods
14. Temporal Difference (TD) Learning
15. Double DQN
16. Dueling DQN
17. Prioritized Experience Replay
18. Rainbow DQN
19. A2C (Advantage Actor-Critic)
20. TRPO (Trust Region Policy Optimization)
21. GAE (Generalized Advantage Estimation)
22. ACER (Actor-Critic with Experience Replay)
23. Distributional RL (e.g., C51, QR-DQN)
24. Hierarchical Reinforcement Learning
25. Inverse Reinforcement Learning
26. Multi-Agent Reinforcement Learning (MARL)
27. Model-Based Reinforcement Learning
28. DDPG with Hindsight Experience Replay (HER)
29. Evolutionary Strategies for RL
30. Maximum Entropy RL