Metric of each algorithm

1. Supervised Learning Metrics:

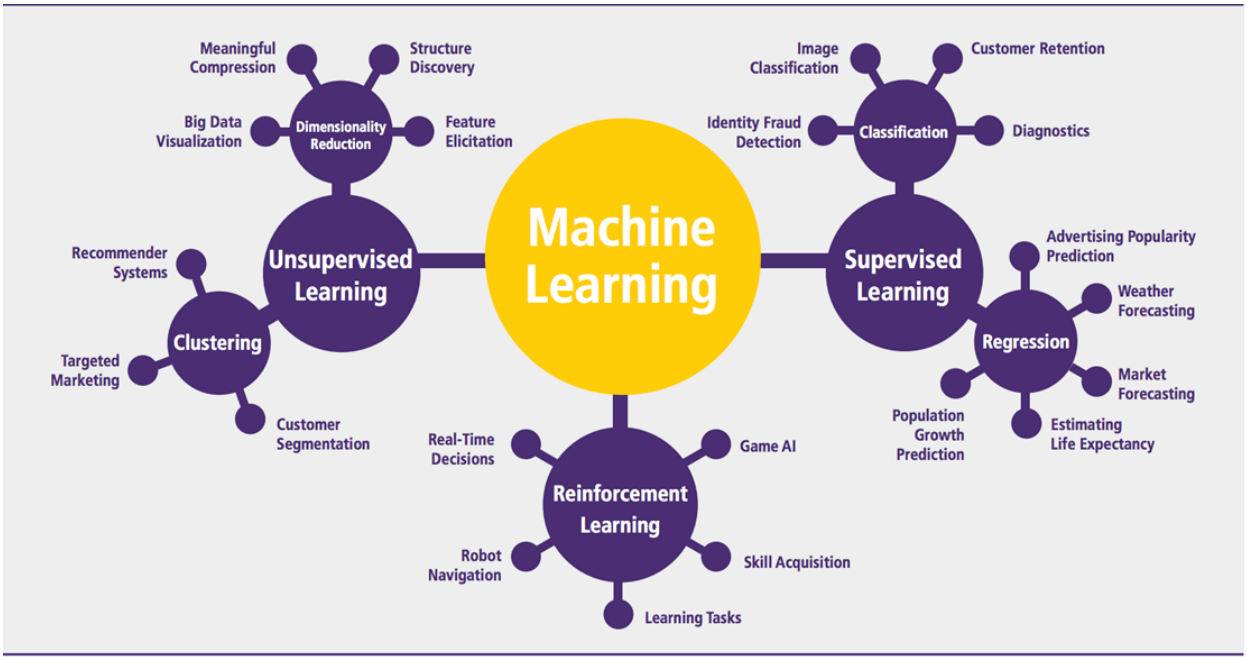
- **Linear Regression**:
  - **Mean Squared Error (MSE)**: Measures the average squared difference between predicted values and actual values.
  - **R-squared (Coefficient of Determination)**: Indicates the proportion of the variance in the dependent variable that is predictable from the independent variables.
- **Logistic Regression**:
  - **Accuracy**: Measures the proportion of correct predictions among the total number of predictions.
  - **Precision and Recall**: Precision measures the accuracy of positive predictions, while recall measures the proportion of actual positives that were correctly identified.
- **Decision Trees** and **Random Forest**:
  - **Accuracy**, **Precision**, **Recall**, **F1-score**: Commonly used classification metrics.
  - **Gini Impurity** or **Entropy**: Measures the impurity or uncertainty of a node in the decision tree.
- **Support Vector Machines (SVM)**:
  - **Accuracy**, **Precision**, **Recall**, **F1-score**.
- **Neural Networks**:
  - **Accuracy**, **Precision**, **Recall**, **F1-score**.
  - **Cross-Entropy Loss**: Measures the performance of a classification model whose output is a probability value between 0 and 1.

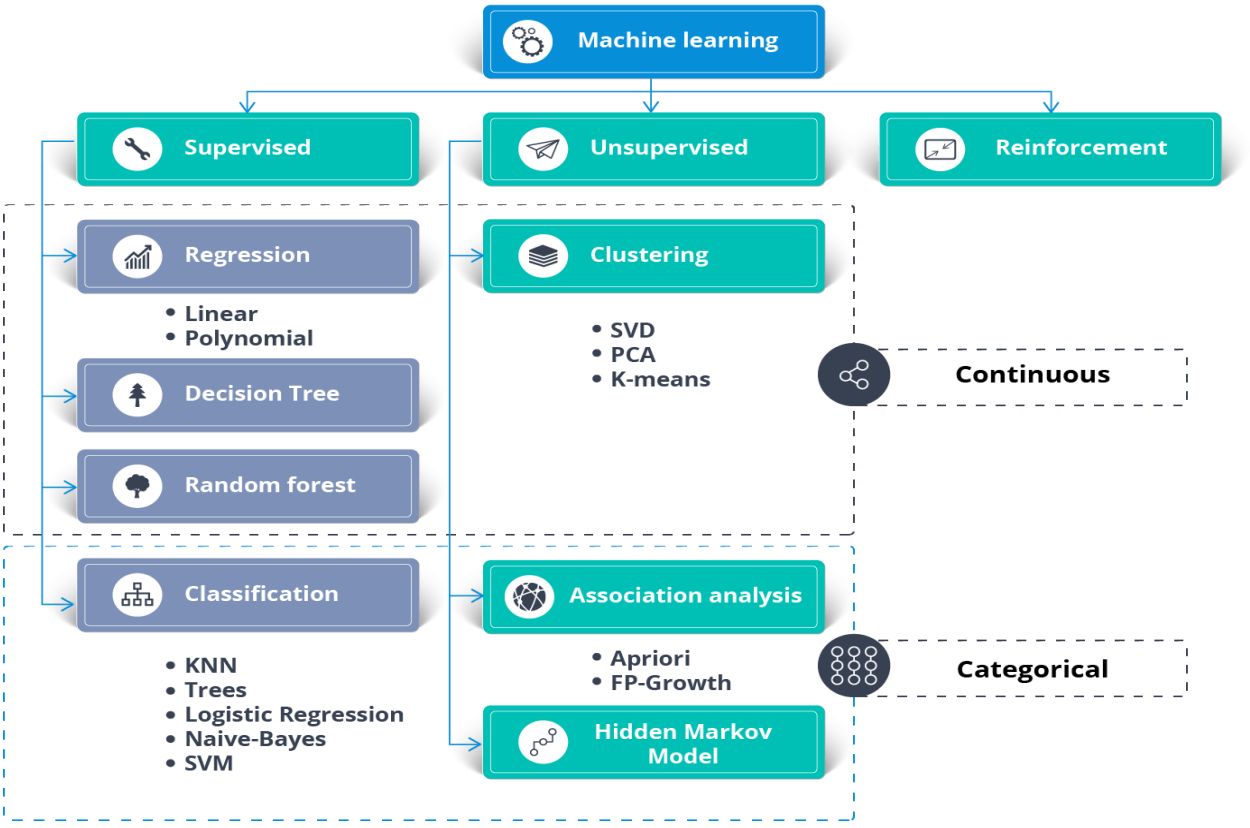
2. Unsupervised Learning Metrics:

- **K-Means Clustering**:
  - **Silhouette Score**: Measures how similar an object is to its own cluster compared to other clusters.
  - **Inertia**: Sum of squared distances of samples to their closest cluster center.
- **Principal Component Analysis (PCA)**:
  - **Explained Variance Ratio**: Percentage of variance explained by each of the selected components.
  - **Reconstruction Error**: Measures the difference between the original input data and the reconstructed data from reduced dimensions.

3. Reinforcement Learning Metrics:

- **Q-Learning** and **Deep Q-Networks (DQN)**:
  - **Average Reward per Episode**: Measures the average reward obtained over a number of episodes.
  - **Exploration-Exploitation Trade-off**: Measures how well the agent balances exploring new actions versus exploiting known actions.
- **Policy Gradient Methods** and **Actor-Critic Methods**:
  - **Average Reward per Episode**.
  - **Policy Loss**: Measures the difference between predicted and actual policy outcomes.
- **Monte Carlo Tree Search (MCTS)**:
  - **Win Rate**: Proportion of games won by the agent.
  - **Exploration Factor**: Measures how much the agent explores versus exploiting known actions.


Machine Learning
Unsupervised Learning
Dimensionality Reduction
Meaningful Compression
Structure Discovery
Big Data Visualization
Feature Elicitation
Clustering
Recommender Systems
Targeted Marketing
Customer Segmentation
Supervised Learning
Classification
Image Classification
Customer Retention
Identity Fraud Detection
Diagnostics
Regression
Advertising Popularity Prediction
Weather Forecasting
Market Forecasting
Estimating Life Expectancy
Population Growth Prediction
Reinforcement Learning
Real-Time Decisions
Game AI
Robot Navigation
Skill Acquisition
Learning Tasks


Machine learning
Supervised
Unsupervised
Reinforcement
Regression
Linear
Polynomial
Decision Tree
Random forest
Clustering
SVD
PCA
K-means
Continuous
Classification
KNN
Trees
Logistic Regression
Naive-Bayes
SVM
Association analysis
Apriori
FP-Growth
Hidden Markov Model
Categorical