12 popular ML algorithms

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1. Linear Regression 📈: A foundational algorithm for predicting continuous values based on linear relationships in the data.

2. Logistic Regression 📊: Ideal for binary classification tasks, estimating the probability of an event occurrence.

3. Decision Tree 🌳: A versatile algorithm for both regression and classification tasks, creating tree-like models for decision-making.

4. Random Forest 🌲: Ensemble method combining multiple decision trees to enhance accuracy and reduce overfitting.

5. Naive Bayes 📚: A probabilistic classifier based on Bayes' theorem, well-suited for text classification and spam filtering.

6. Gradient Boosted Trees 🌳: Boosting technique that builds multiple weak learners to create a strong predictive model.

7. Neural Networks 🧠: Deep Learning marvel mimicking the human brain's architecture, enabling complex pattern recognition.

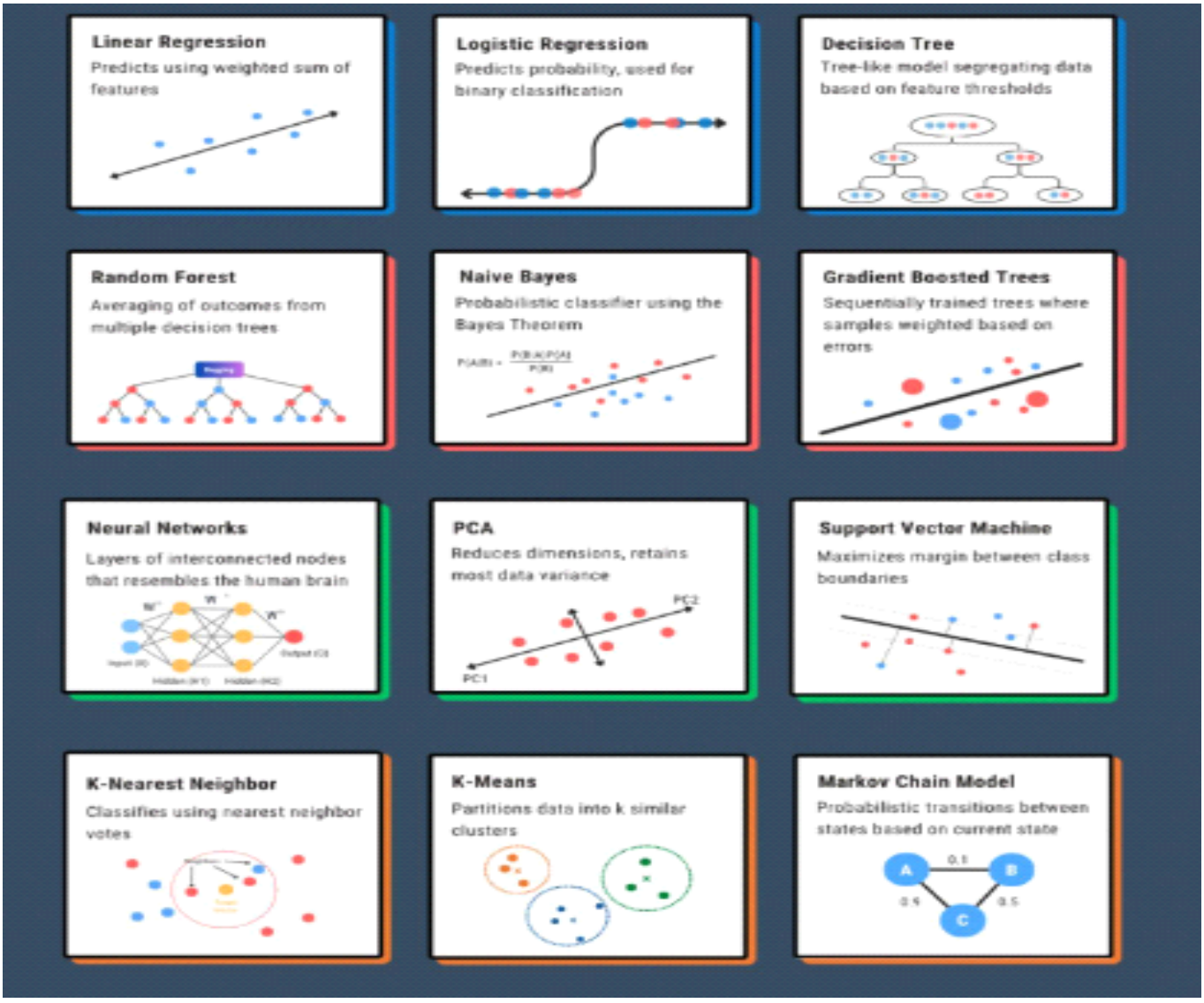
8. PCA (Principal Component Analysis) 🎲: A dimensionality reduction technique to transform high-dimensional data into a lower-dimensional space.

9. Support Vector Machine 🎯: Effective for classification tasks, defining decision boundaries by maximizing the margin between data points.

10. K-Nearest Neighbor 🏢: Instance-based learning where new data points are classified based on their proximity to known data.

11. K-Means 🎯: A popular clustering algorithm that groups similar data points into clusters based on distance.

12. Markov Chain Model 🎲: A probabilistic model used for sequential data analysis, with applications in natural language processing and finance.


Linear Regression
Predicts using weighted sum of features
Logistic Regression
Predicts probability, used for binary classification
Decision Tree
Tree-like model segregating data based on feature thresholds
Random Forest
Averaging of outcomes from multiple decision trees
Naive Bayes
Probabilistic classifier using the Bayes Theorem
Gradient Boosted Trees
Sequentially trained trees where samples weighted based on errors
Neural Networks
Layers of interconnected nodes that resembles the human brain
PCA
Reduces dimensions, retains most data variance
PC2
PC1
Support Vector Machine
Maximizes margin between class boundaries
K-Nearest Neighbor
Classifies using nearest neighbor votes
K-Means
Partitions data into k similar clusters
Markov Chain Model
Probabilistic transitions between states based on current state
A
B
C
0.1
0.4
0.5