Here's a simple & brief difference table 👇

Feature	Bagging	Boosting	Stacking
Dataset use	Random subsets (bootstrapping)	Full dataset, but each new model focuses on errors of previous	Full dataset (same for all models)
Model type	Usually same model (e.g., many trees)	Usually weak learners (e.g., stumps/trees)	Different models (Logistic, KNN, Tree, SVM, etc.)
Training style	Parallel (all at once)	Sequential (one after another, correcting mistakes)	Parallel, then combined by a meta-model
Result calculation	Simple vote/average	Weighted vote (later models get higher weight)	Meta-model learns best way to combine outputs
Main goal	Reduce variance (avoid overfitting)	Reduce bias + variance (improve accuracy)	Combine strengths of different models
Popular examples	Random Forest	AdaBoost, Gradient Boosting, XGBoost, LightGBM	StackingClassifier, Super Learner

👉 Quick memory trick:

- Bagging = many same models, different data parts, vote/average.
- Boosting = sequential correction of errors, weighted result.
- Stacking = mix of different models, meta-learner combines results.
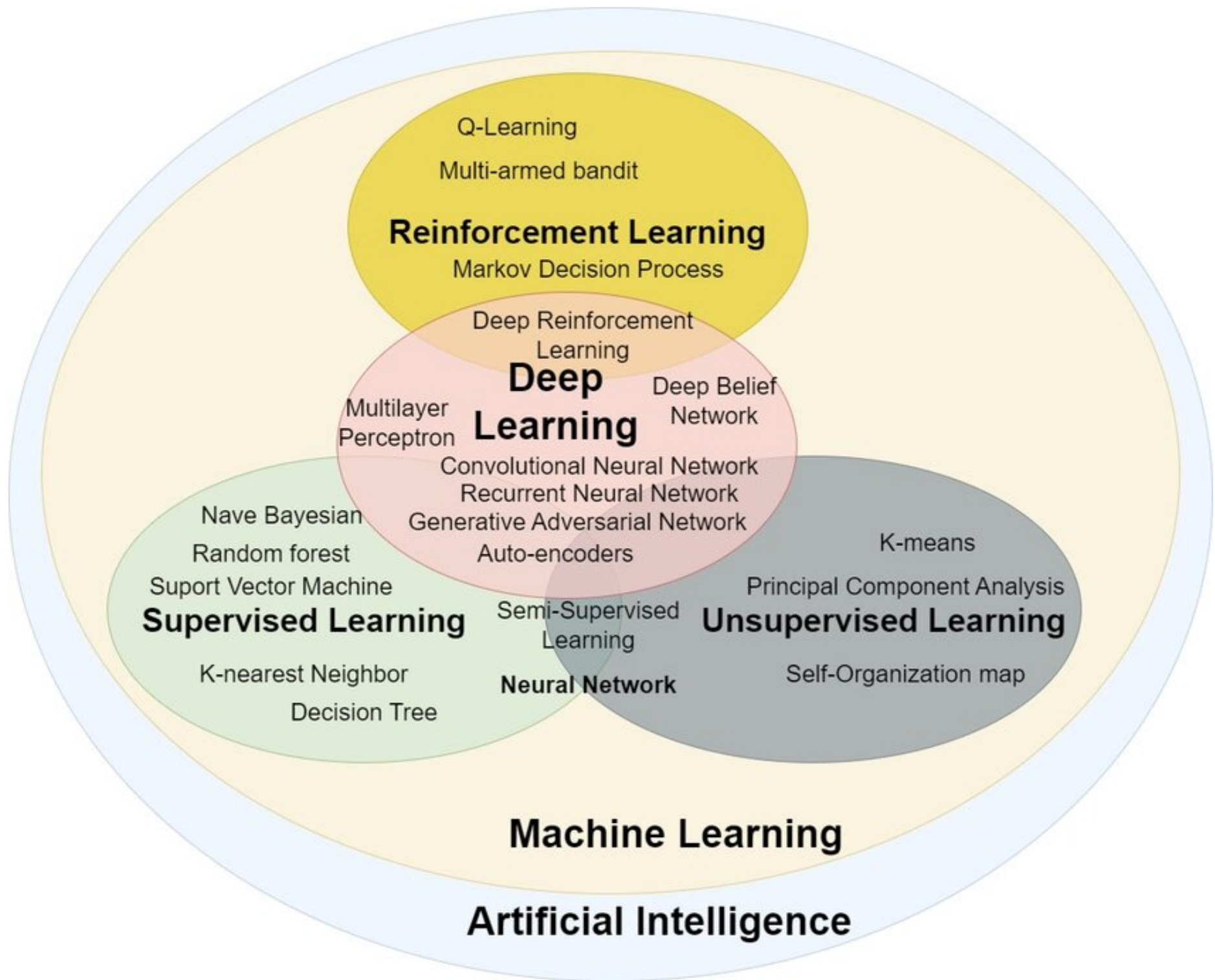
Supervised Learning	Unsupervised Learning
- Linear regression - Logistic regression - Naive Bayes - K-Nearest Neighbors - Decision trees - Random Forests - Support Vector Machines	- k-means Clustering - Hierarchical Clustering - Mixture Models

Basic Tree Terminologies

Node   A basic unit of a tree containing data and
references (links) to child nodes.

Root   The topmost node of a tree. It has no parent.

Parent   A node that has one more child nodes.

Child   A node that descends from another node (lis parmt).

Leaf   A node with no children. Also called a terminal node.

Siblings   Nodes that share the same parent.

Edge   A connection (link) between two nodes
(parent → child).

Path   A sequencen of nodes connected by edges.

Level   The number of edges from the root to a node.
Root is level 0.

Height   The longest pam frum from a node to a leaf.
Height of a leaf is 0. Height of the tree = herbt of
the root.

Depth   The number of edges from anode has.

Subtree   A tree formed by a node and all of its descendants.