Machine Learning Algorithms
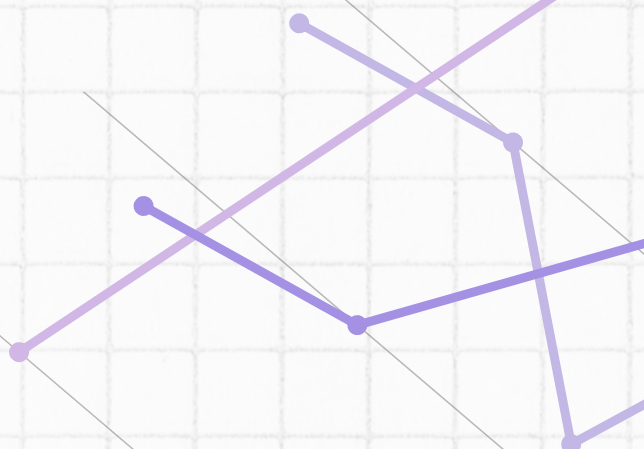
Explained With its Real Life Usage

01 Linear Regression

Linear regression is used for predicting continuous numerical values based on a linear relationship between the input features and the target variable. It finds the best-fit line to the data.

Real Life Uses: Predicting housing prices, sales forecasting, and analyzing the impact of advertising on sales

02 Logistic Regression

Logistic regression is used for binary classification problems. It estimates the probability of an input belonging to one of two classes by fitting a logistic function to the data.

Real-world uses: Spam email detection, credit scoring, and disease diagnosis.

03 Decision Trees

Decision trees partition the data based on different feature conditions to make predictions. They are useful for both classification and regression tasks and can handle categorical and numerical data.

Real-world uses: Customer segmentation, fraud detection, and loan default prediction.
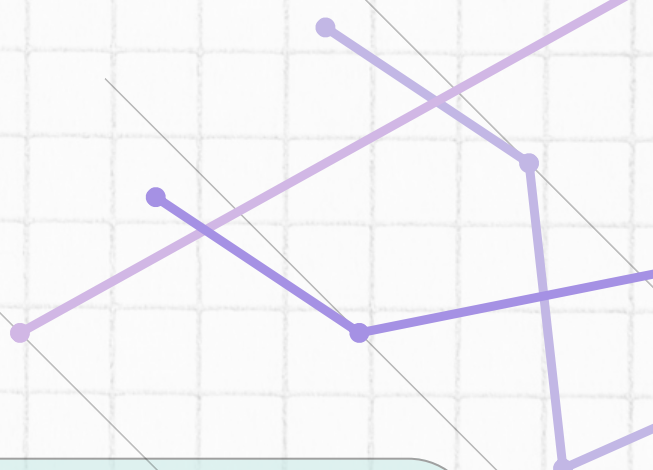
04 Random Forest

Random forest is an ensemble method that combines multiple decision trees. It improves prediction accuracy and handles complex data relationships. Random forest is widely used in various domains for classification and regression tasks.

Real-world uses: Image classification, predicting customer churn, and analyzing stock market trends.

Machine Learning Algorithms
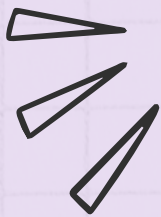
Explained With its Real Life Usage

05 Support Vector Machines

SVM is a powerful algorithm for classification problems. It finds an optimal hyperplane to separate data points into different classes, maximizing the margin between them.

Real-world uses: Text categorization, image recognition, and handwritten character recognition.

06 Naive Bayes

Naive Bayes is a probabilistic algorithm based on Bayes' theorem. It is commonly used for text classification tasks and spam filtering. Despite its simplicity, it often performs
well and is computationally efficient.

Real-world uses: Email spam filtering, sentiment analysis
in social media, and document classification.

07 K-Nearest Neighbors

KNN is a simple and versatile algorithm for both classification and regression. It predicts the class or value of a new sample based on the majority of its k nearest neighbors in the feature space.

Real-world uses: Recommender systems, image recognition, and anomaly detection in network intrusion detection.

08 Neural Networks

Neural networks are a set of interconnected nodes or 'neurons' that process and learn from input data. Deep learning, a subset of neural networks, has gained prominence in various domains, such as image recognition, natural language processing, and speech recognition.

Real-world uses: Image and object recognition, natural language processing, and autonomous driving.