

## **Optimization Algorithms**

Optimization Algorithms are mathematical techniques used to find the best solution to a problem within a set of constraints. They are employed in various fields, including operations research, engineering design, and machine learning, to optimize parameters, minimize costs, or maximize efficiency. Optimization algorithms include linear programming, nonlinear optimization, genetic algorithms, and simulated annealing, among others. They are used to solve diverse optimization problems such as resource allocation, scheduling, portfolio optimization, and parameter tuning in machine learning models.