

Evolutionary Algorithms and their Applications

In this talk, we delve into the fundamental concepts behind evolutionary algorithms, a class of optimization algorithms inspired by natural selection. We begin by providing an overview of evolutionary algorithms (EAs) then we explore the general evolutionary algorithm and its applicability across a diverse set of problems. We show how evolutionary algorithms can be used to solve linear programming problems, drawing comparisons with traditional approaches like the simplex method. Further, we demonstrate the adaptability of evolutionary algorithms by showcasing their effectiveness in tackling puzzle games such as Sudoku. We conclude this talk by introducing more intricate evolutionary algorithms, where individual programs, particularly neural networks, are considered as potential solutions to be refined and optimized.