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the Multidimensional Assignment Problem -- Autonomous Control Approach for Local Search -- EasyGenetic: A Template Metaprogramming Framework for Genetic Master-Slave Algorithms -- Adaptive Operator Selection for Iterated Local Search -- Improved Robustness through Population Variance in Ant Colony Optimization -- Mixed-Effects Modeling of Optimisation Algorithm Performance.

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## Sommario/riassunto

Stochastic local search (SLS) algorithms are established tools for the solution of computationally hard problems arising in computer science, business administration, engineering, biology, and various other disciplines. To a large extent, their success is due to their conceptual simplicity, broad applicability and high performance for many important problems studied in academia and entered in real-world applications. SLS methods include a wide spectrum of techniques, ranging from constructive search procedures and iterative improvement algorithms to more complex SLS methods, such as ant colony optimization, evolutionary computation, iterated local search, memetic algorithms, simulated annealing, tabu search, and variable neighborhood search. Historically, the development of effective SLS algorithms has been guided to a large extent by experience and intuition. In recent years, it has become increasingly evident that success with SLS algorithms depends not merely on the adoption and efficient implementation of the most appropriate SLS technique for a given problem, but also on the mastery of a more complex algorithm engineering process. Challenges in SLS algorithm development arise partly from the complexity of the problems being tackled and in part from the many degrees of freedom researchers and practitioners encounter when developing SLS algorithms. Crucial aspects in the SLS algorithm development comprise algorithm design, empirical analysis techniques, problem-specific background, and background knowledge in several key disciplines and areas, including computer science, operations research, artificial intelligence, and statistics.

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