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   Sommario/riassunto   Evolutionary algorithms is a class of randomized heuristics inspired by natural evolution. They are applied in many different contexts, in particular in optimization, and analysis of such algorithms has seen tremendous advances in recent years.   In this book the author provides an introduction to the methods used to analyze evolutionary algorithms and other randomized search heuristics. He starts with an algorithmic and modular perspective and gives guidelines for the design of evolutionary algorithms. He then places the approach in the broader research context with a chapter on theoretical perspectives. By

adopting a complexity-theoretical perspective, he derives general limitations for black-box optimization, yielding lower bounds on the performance of evolutionary algorithms, and then develops general methods for deriving upper and lower bounds step by step. This main part is followed by a chapter covering practical applications of these methods.   The notational and mathematical basics are covered in an appendix, the results presented are derived in detail, and each chapter ends with detailed comments and pointers to further reading. So the book is a useful reference for both graduate students and researchers engaged with the theoretical analysis of such algorithms. .