1. Record Nr. UNINA9910482969203321

Titolo	Algorithm Engineering : Selected Results and Surveys / / edited by Lasse Kliemann, Peter Sanders
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-49487-2
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (X, 419 p. 68 illus.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 9220
Disciplina	518.1
Soggetti	Algorithms Application software Artificial intelligence Computer networks Computer science Computer science—Mathematics Discrete mathematics Computer and Information Systems Applications Artificial Intelligence Computer Communication Networks Theory of Computation Discrete Mathematics in Computer Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Engineering a Lightweight and Efficient Local Search SAT Solver -- Route Planning in Transportation Networks -- Theoretical Analysis of the k-Means Algorithm - A Survey -- Recent Advances in Graph Partitioning -- How to Generate Randomized Roundings with Dependencies and How to Derandomize Them -- External-Memory State Space Search -- Algorithm Engineering Aspects of Real-Time Rendering Algorithms -- Algorithm Engineering in Robust Optimization -- Clustering Evolving Networks -- Integrating Sequencing and Scheduling: A Generic Approach with Two Exemplary Industrial Applications -- Engineering a Bipartite Matching Algorithm in the

Semi-Streaming Model -- Engineering Art Galleries.

Sommario/riassunto

Algorithm Engineering is a methodology for algorithmic research that combines theory with implementation and experimentation in order to obtain better algorithms with high practical impact. Traditionally, the study of algorithms was dominated by mathematical (worst-case) analysis. In Algorithm Engineering, algorithms are also implemented and experiments conducted in a systematic way, sometimes resembling the experimentation processes known from fields such as biology, chemistry, or physics. This helps in counteracting an otherwise growing gap between theory and practice.