

1. Record Nr.	UNINA9910765485203321
Autore	Lu Chao
Titolo	Intelligence Optimization for Green Scheduling in Manufacturing Systems
Pubbl/distr/stampa	Singapore : , : Springer, , 2023 ©2023
ISBN	981-9969-87-5
Edizione	[1st ed.]
Descrizione fisica	1 online resource (258 pages)
Collana	Engineering Applications of Computational Methods Series ; ; v.18
Altri autori (Persone)	GaoLiang LiXinyu YinLvjiang
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Contents -- 1 System Overview -- References -- 2 Green Scheduling in Single-Machine Environment -- 2.1 Brief Introduction -- 2.2 Problem Statement and Modeling -- 2.2.1 Problem Statement -- 2.2.2 Mathematical Modeling -- 2.3 Proposed Algorithm -- 2.3.1 Encoding and Decoding -- 2.3.2 Crossover Operator -- 2.3.3 Mutation Operator -- 2.3.4 Local Search -- 2.3.5 Replacement Strategy -- 2.4 Experiments -- 2.4.1 Test Instances -- 2.4.2 Performance Metrics -- 2.4.3 LMOEA Against Other MOEAs -- 2.5 Conclusion -- References -- 3 Green Scheduling in Permutation Flow Shop Environment -- 3.1 Brief introduction -- 3.2 Problem Statement and Modeling -- 3.2.1 Problem Statement -- 3.2.2 Mathematical Modeling -- 3.3 Proposed Algorithm -- 3.3.1 Encoding Representation -- 3.3.2 Initialization -- 3.3.3 Selection-I -- 3.3.4 Crossover and Mutation -- 3.3.5 Selection-II -- 3.4 Case Study and Discussion -- 3.4.1 Case Introduction -- 3.4.2 Parameter Settings -- 3.4.3 Comparison of HMOBSA and the Other Two Algorithms -- 3.4.4 Analysis of Energy-Saving Scenario -- 3.5 Chapter Conclusion -- References -- 4 Green Scheduling in Hybrid Flow Shop Environment -- 4.1 Brief Introduction -- 4.2 Problem Statement and Modeling -- 4.2.1 Problem Statement -- 4.2.2 Mathematical Modeling -- 4.3 Proposed Algorithm -- 4.3.1 Encoding and Decoding -- 4.3.2 Initialization

and Dividing the Population into Subpopulations -- 4.3.3 Fitness Evaluation -- 4.3.4 Social Hierarchy -- 4.3.5 Search Operator -- 4.3.6 VNS Strategy -- 4.4 Experiments -- 4.4.1 Test Instances -- 4.4.2 Parameter Settings -- 4.4.3 Performance Metrics -- 4.4.4 Effectiveness of the Cellular Automata -- 4.4.5 Effectiveness of VNS on MOCGWO -- 4.4.6 Comparison of MOCGWO with Other Algorithms -- 4.5 Conclusion -- References -- 5 Green Scheduling in Job Shop Environment -- 5.1 Brief Introduction. 5.2 Problem Statement and Modeling -- 5.2.1 Problem Statement -- 5.2.2 Mathematical Modeling -- 5.3 Proposed Algorithm -- 5.3.1 Encoding and Decoding -- 5.3.2 Crossover and Mutation -- 5.3.3 Local Search Based on Problem Property -- 5.4 Experiments -- 5.4.1 Test Instances -- 5.4.2 Parameter Settings -- 5.4.3 Performance Metrics -- 5.4.4 Effectiveness of the Proposed Decoding Scheme -- 5.4.5 Effectiveness of the Proposed Local Search -- 5.4.6 Comparison Between MOMA and Other MOEAs -- 5.5 Conclusion -- References -- 6 Green Scheduling in Flexible Job Shop Environment -- 6.1 Brief Introduction -- 6.2 Problem Statement and Modeling -- 6.2.1 Problem Statement -- 6.2.2 Mathematical Modeling -- 6.3 Proposed Algorithm -- 6.3.1 Simplex Lattice Design -- 6.3.2 Encoding and Decoding -- 6.3.3 Initial Population and Fitness Evaluation -- 6.3.4 Genetic Operations -- 6.3.5 Elite Strategy -- 6.3.6 Framework of the Proposed MOGA -- 6.4 Experiments -- 6.4.1 Experiment 1 -- 6.4.2 Experiment 2 -- 6.4.3 Experiment 3 -- 6.4.4 Performance Comparison -- 6.5 Case Study -- 6.6 Conclusion -- References -- 7 Green Scheduling in Welding Shop Environment -- 7.1 Brief Introduction -- 7.2 Problem Statement and Modeling -- 7.2.1 Problem Statement -- 7.2.2 Mathematical Modeling -- 7.3 Proposed Algorithm -- 7.3.1 Encoding and Decoding -- 7.3.2 Initialization -- 7.3.3 Update Operation -- 7.3.4 The New Local Search -- 7.4 Experiments -- 7.4.1 Parameter Settings -- 7.4.2 Comparison of HMOGWO with Other Algorithms -- 7.4.3 Case Study -- 7.5 Chapter Conclusion -- References -- 8 Green Scheduling in Distributed Permutation Flow Shop with Non-identical Factories -- 8.1 Brief Introduction -- 8.2 Problem Statement and Modeling -- 8.2.1 Problem Statement -- 8.2.2 Mathematical Modeling -- 8.3 Proposed Algorithm -- 8.3.1 Encoding and Decoding -- 8.3.2 Initialization -- 8.3.3 Update Operation. 8.3.4 Local Search -- 8.4 Experiments -- 8.4.1 Instances and Performance Metrics -- 8.4.2 Parameter Calibration -- 8.4.3 Effectiveness of Initialization Strategy -- 8.4.4 Effectiveness of Local Search -- 8.4.5 Effectiveness of Energy-Saving Strategy -- 8.4.6 Comparison of Algorithms -- 8.5 Chapter Conclusion -- References -- 9 Green Scheduling in Distributed Permutation Flow Shop with Limited Buffers -- 9.1 Brief Introduction -- 9.2 Problem Statement and Modeling -- 9.2.1 Problem Statement -- 9.2.2 Mathematical Modeling -- 9.3 Proposed Algorithm -- 9.3.1 Solution Representation -- 9.3.2 Initialization -- 9.3.3 Collaborative Search Operator -- 9.3.4 Local Search -- 9.4 Experiments -- 9.4.1 Instances and Performance Metrics -- 9.4.2 Parameter Calibration -- 9.4.3 Effectiveness of Improvement Components of CMOA -- 9.4.4 Effectiveness of Energy-Saving Strategy -- 9.4.5 Comparison of Algorithms -- 9.5 Chapter Conclusion -- References -- 10 Green Scheduling in Distributed Hybrid Flow Shop Environment -- 10.1 Brief Introduction -- 10.2 Problem Statement and Modeling -- 10.2.1 Problem Statement -- 10.2.2 Mathematical Modeling -- 10.3 Proposed Algorithm -- 10.3.1 Encoding and Decoding -- 10.3.2 Initialization -- 10.3.3 Selection -- 10.3.4 Crossover and Mutation -- 10.3.5 Destruction and Reconstruction -- 10.3.6 Local Search -- 10.3.7 Energy-Saving

Strategy -- 10.3.8 Elitism Strategy -- 10.4 Experiments -- 10.4.1
Instances and Performance Metrics -- 10.4.2 Parameter Calibration --
10.4.3 Validity of Initialization -- 10.4.4 Effectiveness of Local Search
-- 10.4.5 Effectiveness of Energy-Saving Strategy -- 10.4.6
Comparison of MOHIG and Other Algorithms -- 10.5 Chapter
Conclusion -- References.
