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Multi-objective evolutionary algorithms for optimal scheduling

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Curriculum Vitae

Yali Wang was born in Baiyin, China. She received her BSc of Computer Science at Wuhan University, China in 1997. After that, she worked first as a software engineer and then as a configuration management officer in H3C Technologies Co., Limited, Beijing, China. In 2015, she came to the Netherlands and completed her MSc at Leiden Institute of Advanced Computer Science (LIACS), Leiden University in 2017. Right after, she worked as a PhD at the same university under the supervision of Michael Emmerich and Thomas Bäck. Her research interests include multi-objective optimization, evolutionary algorithm, scheduling optimization, prediction-based optimization, preference based multi-objective optimization and dynamic optimization.

Acronyms

AP-DI-MOEA

Automatic Preference based Diversity Indicator-based Multi-objective Evolutionary Algorithm

DF

Desirability Function

DI-MOEA

Diversity Indicator-based Multi-objective Evolutionary Algorithm

DM

Decision Maker

DRS

Dominance Resistant Solution

EA

Evolutionary Algorithm

EAF

Empirical Attainment Function

EMO

Evolutionary Multi-objective Optimization

EMOA

Evolutionary Multi-objective Optimization Algorithm

EP

Evolutionary Programming

ES

Evolution Strategy

Acronyms

FJSP

Flexible Job shop Scheduling Problem

GA

Genetic Algorithm

GD

Generational Distance

GI

Gap Indicator

GP

Genetic Programming

HV

Hypervolume

IBEA

Indicator-based Evolutionary Algorithm

IGD

Inverted Generational Distance

JSP

Job shop Scheduling Problem

MIP-EGO

Mixed integer, Parallel - Efficient Global Optimization

MOEA

Multi-objective Evolutionary Algorithm

MOFJSP

Multi-objective Flexible Job shop Scheduling Problem

MOO

Multi-Objective Optimization

MOP

Multi-objective Optimization Problem

MOVFMSO

Multi-objective Vehicle Fleet Maintenance Scheduling Optimization

NE

Number of Evaluations

NSGA-II

Non-dominated Sorting Genetic Algorithm II

NSGA-III

Non-dominated Sorting Genetic Algorithm III

PF

Pareto Front

ROI

Region of Interest

RUL

Remaining Useful Lifetime

SMS-EMOA

S-Metric Selection Evolutionary Multi-Objective Algorithm

VFMSO

Vehicle Fleet Maintenance Scheduling Optimization