

CURRICULUM VITAE

MADALINA IONITA (married RASCHIP)



Coordinates

Date of birth: 20.01.1981

Marital status: married

Nationality: Romanian

“Alexandru Ioan Cuza” University, Faculty of Computer Science

Str. General Berthelot 16, 700483, Iasi, Romania

Phone no.: 0040 771 683225, Fax: 0040 232 201490

E-mail: mionita@info.uaic.ro

web: <http://profs.info.uaic.ro/~mionita/>

Studies

- ^ 2014-2015 Post-doctoral researcher, SCIE X Fellowship, University of Neuchatel, Switzerland

Title of the project: *HAL-DMCSP - Hybrid algorithms for joint data mining and constraint satisfaction problems: a case study on wireless sensor networks*

Mentor: Prof. Dr. Kilian Stoffel

- ^ 2005-2011 PhD in Computer Science, Faculty of Computer Science, “Alexandru Ioan Cuza” University of Iasi, Romania (one year parental leave; PhD defense: June, 2011)

PhD thesis: *Hybrid Metaheuristics for Solving Constraint Satisfaction Problems*

Advisor: Prof. Dr. Henri Luchian

Thesis committee: Prof. Dr. Dan Simovici, Prof. Dr. Daniela Zaharie, Prof. Dr. Dan Dumitrescu

- ^ 2003-2005 Master in Computational Optimization, Faculty of Computer Science, “Alexandru Ioan Cuza” University of Iasi, Romania

- ^ 1999-2003 B.Sc Computer Science, “Alexandru Ioan Cuza” University of Iasi, Romania

Research Interests

Hybrid Metaheuristics, Evolutionary Computation, Data mining, Data-driven EAs, Constraint Satisfaction and Optimization, Combinatorial Optimization, Artificial Intelligence

Member of the Evolutionary Computation in Optimization and Data Mining group, Faculty of Computer Science, <http://profs.info.uaic.ro/~cevol> and of the Data Engineering for Constraints Optimization group, UAIC

Publications

C. Frasinaru, M. Raschip. An Improved Subsumption Testing Algorithm for the Optimal-Size Sorting Network Problem, sent to JDA, Elsevier, 2017

R. Necula, M. Raschip, M. Breaban. Balancing the subtours for Multiple TSP approached with ACS: clustering-based approaches vs. MinMax formulation . *EVOLVE - A Bridge between Probability, Set Oriented Numerics, and Evolutionary Computation, EVOLVE 2015*, Advances in Intelligent Systems and Computing (AISC), vol. 674, Springer, 210-223, 2018

R. Necula, M. Breaban, M. Raschip: Tackling Dynamic Vehicle Routing Problem with Time Windows by means of Ant Colony System, In *Proc. Of the IEEE Con Congress on Evolutionary Computation, CEC 2017*, 2480-2487, 2017

M. Raschip, C. Croitoru, K. Stoffel. Guiding Evolutionary Search with Association Rules for Solving Weighted CSPs . In *Proc. of Genetic and Evolutionary Computation Conference, GECCO '15*, 481-488, 2015

M. Raschip, C. Croitoru, K. Stoffel. Using association rules to guide evolutionary search in solving constraint satisfaction . In *Proc. of the IEEE Congress on Evolutionary Computation, CEC 2015*, 744-750, 2015

R. Necula, M. Breaban, M. Raschip: Tackling the Bi-criteria Facet of Multiple Traveling Salesman Problem with Ant Colony Systems. *27th IEEE International Conference on Tools with Artificial Intelligence, ICTAI 2015*, 873-880, 2015

R. Necula, M. Breaban, M. Raschip. Performance Evaluation of Ant Colony Systems for the Single-Depot Multiple Traveling Salesman Problem. *Hybrid Artificial Intelligent Systems, HAIS 2015*, volume 9121 in LNCS, pages 257-268, 2015

M. Raschip, C. Croitoru. A Genetic Algorithm hybridized with the Discrete Lagrangian Method for trap escaping. *Learning and Intelligent Optimization LION5*, volume 6683 in LNCS, pages 351-363, 2011

M. Raschip, C. Croitoru. A New Primal-Dual Genetic Algorithm: Case Study for the Winner Determination Problem. *Evolutionary Computation in Combinatorial Optimization EvoCOP10*, volume 6022 in LNCS, pages 252-263, Springer, 2010

M. Raschip, H. Luchian. Using messy genetic algorithms for solving the winner determination problem. *Genetic and Evolutionary Computation Conference, GECCO'10, Evolutionary computation techniques for constraint handling workshop*, pages 1825-1832, 2010

M. Ionita, M. Breaban, C. Croitoru. Evolutionary Computation in Constraint Satisfaction, book chapter in *New Achievements in Evolutionary Computation*, editor Peter Korosec, INTECH Vienna, ISBN 978-953-307-053-7, 2010

M. Breaban, M. Ionita, C. Croitoru. A new PSO approach to constraint satisfaction. In *Proc. of the IEEE Congress on Evolutionary Computation, CEC 2007*, pages 1948-1954, 2007

M. Ionita, C. Croitoru, M. Breaban. Incorporating inference into evolutionary algorithms for Max-CSP. In *3rd International Workshop on Hybrid Metaheuristics*, volume 4030 in LNCS, pages 139-149, Springer-Verlag, 2006

M. Ionita, M. Breaban, C. Croitoru. A new scheme of using inference inside evolutionary computation techniques to solve CSPs. In *Proc. of 8th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, Natural Computing and Applications Workshop*, pages 323-329, IEEE press, 2006

M Ionita, H. Luchian: Two Problem Independent Methods for Generating Initial Solutions. In *Proc. of the 2005 IEEE Congress on Evolutionary Computation*, vol. 2, pages 1442-1447, 2005

Visiting Professor

Erasmus+ mobility at the *Ben-Gurion University of the Negev*, Israel, 2016 and at the *University of Massachusetts, Boston*, USA, 2017

Trainings

- ^ Applied Statistics For Computer Scientists, Dr. Bernadetta Tarigan, Doctoral Program in Computer Science, Conference Universitaire de Suisse Occidentale, Berne, May 2015
- ^ DBTA Workshop on Stream Processing, Special Interest Group on Information Systems, Swiss Informatics Society, Berne, December 2014
- ^ Statistical Genomics for Medical Research, Prof. P. Broet, Prof. H. Perdry, Prof. C. Dalmasso, ISCB Romanian group, Iasi, September 2012
- ^ Statistical Methods for Clinical Trials, Prof. KyungMann Kim, ISCB Romanian group, Iasi, June 2012
- ^ Re-sampling methods (with R), Prof. Jeno Reiczigel, ISCB Romanian group, Iasi, October 2010
- ^ Doctoral Intensive Summer School on Evolutionary Computing in Optimisation and Data Mining, Iasi, June 2006-2012
- ^ First International Summer School on Constraint Programming, organizer scholarship, Acquafredda di Maratea, Italy, September 2005
- ^ University of Hamburg, Socrates scholarship, Germany, April-July 2003

Conference attending

- ^ Genetic and Evolutionary Computation Conference (GECCO)- Portland 2010, Madrid 2015
- ^ IEEE Congress on Evolutionary Computation (CEC) Sendai 2015, Singapore 2007, Edinburgh 2005
- ^ EVOLVE - A Bridge between Probability, Set Oriented Numerics, and Evolutionary Computation, Iasi, Romania, 2015
- ^ Learning and Intelligent Optimization (LION), Rome, Italy, 2011
- ^ EvoStar: European Conference on Evolutionary Computation in Combinatorial Optimisation (EvoCOP), Istanbul, Turkey, 2010
- ^ ESSEC Romanian Seminar on Operational Research, Bucuresti, Romania, 2009
- ^ European Conference on Artificial Intelligence (ECAI), Patras, Greece, 2008
- ^ International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), Timisoara, Romania, 2006
- ^ International Workshop on Hybrid Metaheuristics (HM), Gran Canaria, Spain, 2006

Program committee

The EVOLVE 2015 International Conference – A Bridge between Probability, Set Oriented Numerics, and Evolutionary Computing, 2015

International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), 2012-2013, 2015-2017

The Workshop on Natural Computing and Applications, SYNASC, 2011-2017

Reviewer

Peer reviewer for the Engineering Applications of Artificial Intelligence Journal, Springer, 2010; Journal of Intelligent and Robotic Systems, Springer, 2015

Research Grants

Director of *Hybrid Approaches for Solving Constraint Satisfaction Problems*, financed by the National Council of Scientific Research in Higher Education, grant type TD - 459, contract no. 86GR, 2006-2008

Member in:

- ⋄ *HAL-DMCSP - Hybrid algorithms for joint data mining and constraint satisfaction problems: a case study on wireless sensor networks*, SCIEX 13.322, 2014-2015
- ⋄ *FOReGASt: Integrated system of analysis and forecasting of consumption for IMM natural gas distributors*, PN-III-P2-2.1-CI-2017-0654, 2017
- ⋄ *New Natural Computing Models in the Study of Complexity and for Solving Complex Problems*, financed by the Executive Unit for Financing Higher Education, Research, Development and Innovation, Program 4 - Partnerships in priority areas - 2120, 2008-2010
- ⋄ *GRAI: Academic Grid for Complex Applications*, financed by the Executive Unit for Financing Higher Education, Research, Development and Innovation, Research Excellence Program, CEEEX-M1-1801, 2006-2008
- ⋄ *AMASS: Associative Memory Arrays for Semantic Search*, FP6, contract no. 018283, 2005-2007
- ⋄ *Approaches that mimic nature for the Graph Coloring Problem*, financed by the National Council of Scientific Research in Higher Education, code 592, contract no. 33373, 2004-2006

Current position

Lecturer, Faculty of Computer Science, 2Alexandru Ioan Cuza” University of Iasi, Romania
Experimental Analysis of Algorithms (for master studies, since 2016)
Data Structures course (for undergraduate studies, since 2011)
Labs of Artificial Intelligence, Object Oriented Programming (since 2008)

Programming skills

C, C++, Java, R

Foreign languages

English: good, French: beginner