

Contents

Part I: Artificial Intelligence and Cryptography

Turing Test as a Defining Feature of AI-Completeness	3
<i>Roman V. Yampolskiy</i>	
Artificial Intelligence Evolved from Random Behaviour: Departure from the State of the Art	19
<i>Wiesław Pietruszkiewicz, Akira Imada</i>	
Turing: Then, Now and Still Key	43
<i>Kieran Greer</i>	
Imitation Programming Unorganised Machines	63
<i>Larry Bull</i>	
Towards Machine Equivalent Consciousness	83
<i>Amy Wenxuan Ding</i>	
Multicriteria Models for Learning Ordinal Data: A Literature Review	109
<i>Ricardo Sousa, Iryna Yevseyeva, Joaquim F. Pinto da Costa, Jaime S. Cardoso</i>	
Diophantine and Lattice Cryptanalysis of the RSA Cryptosystem	139
<i>Abderrahmane Nitaj</i>	
Artificial Intelligence Methods in Early Childhood Education	169
<i>Jim Prentzas</i>	
Recursively Generated Evolutionary Turing Machines and Evolutionary Automata	201
<i>Mark Burgin, Eugene Eberbach</i>	

On Dynamical Systems of Large Girth or Cycle Indicator and Their Applications to Multivariate Cryptography	231
<i>Vasyl Ustimenko, Urszula Romaniuk</i>	
On Extremal Graph Theory, Explicit Algebraic Constructions of Extremal Graphs and Corresponding Turing Encryption Machines	257
<i>Vasyl Ustimenko, Urszula Romaniuk</i>	
AIML Knowledge Base Construction from Text Corpora	287
<i>Giovanni De Gasperis, Isabella Chiari, Niva Florio</i>	
Multidisciplinary Trends in Modern Artificial Intelligence: Turing's Way	319
<i>Elena N. Benderskaya, Sofya V. Zhukova</i>	
An Overview of Computational Sparse Models and Their Applications in Artificial Intelligence	345
<i>Yue Deng, Qionghai Dai, Zengke Zhang</i>	
MiTS in Depth: An Analysis of Distinct Tabu Search Configurations for Constructing Mixed Covering Arrays	371
<i>Loreto Gonzalez-Hernandez, Jose Torres-Jimenez, Nelson Rangel-Valdez</i>	
Part II: Evolutionary Computation and Metaheuristics	
Metaheuristic Optimization: Nature-Inspired Algorithms and Applications	405
<i>Xin-She Yang</i>	
Bat Algorithm and Cuckoo Search: A Tutorial	421
<i>Xin-She Yang</i>	
Memory and Learning in Metaheuristics	435
<i>Arif Arin, Ghaith Rabadi</i>	
On Some Aspects of Nature-Based Algorithms to Solve Multi-Objective Problems	477
<i>Susmita Bandyopadhyay, Ranjan Bhattacharya</i>	
Image Processing with Spiking Neuron Networks	525
<i>Boudjelal Meftah, Olivier Lézoray, Soni Chaturvedi, Aleefia A. Khurshid, Abdelkader Benyettou</i>	
Circle Detection on Images Using Learning Automata	545
<i>Erik Cuevas, Fernando Wario, Daniel Zaldivar, Marco Pérez-Cisneros</i>	
Decision Incorporation in Meta-heuristics to Cope with Decision Scheduling Problems	571
<i>Yacine Laalaoui, R.B. Ahmad</i>	

Evolutionary Models for Agent-Based Complex Behavior Modeling	601
<i>Zengchang Qin, Yingsai Dong, Tao Wan</i>	
Bankruptcy Prediction for Banks: An Artificial Intelligence Approach to Improve Understandability	633
<i>Alma Lilia Garcia-Almanza, Biliana Alexandrova-Kabadjova, Serafin Martinez-Jaramillo</i>	
Neural Network Based Approaches for Network Traffic Prediction	657
<i>Flávio Henrique Teles Vieira, Victor Hugo Teles Costa, Bruno Henrique Pereira Gonçalves</i>	
Application of Bat Algorithm and Fuzzy Systems to Model Exergy Changes in a Gas Turbine	685
<i>A.L. Tamiru, F.M. Hashim</i>	
A KBRL Inference Metaheuristic with Applications	721
<i>Laurentiu Bucur, Adina Florea, Catalin Chera</i>	
Multi-objective Simulated Annealing Algorithm for Partner Selection in Virtual Enterprises	751
<i>Hisham M. Abdelsalam, Amany M. Mohamed</i>	
Metaheuristic Approaches for the Winner Determination Problem in Combinatorial Auction	775
<i>Dalila Boughaci</i>	
Author Index	793