2009 International Conference
on Adaptive and Intelligent Systems
ICAIS 2009
Table of Contents

Welcome from the General Chairs
Welcome from the Program Co-chairs
Conference Committee
Program Committee and Reviewers
Plenary Keynote 1
Plenary Keynote 2
Plenary Keynote 3
Tutorial

Intelligent Agents
Perspectives on Robotic Embodiment from a Developmental Cognitive Architecture ................................................................. 3
  Paul Baxter and Will Browne
Solving Over-constrained Problems Using Network Analysis ................................................................. 9
  Monika Schubert, Alexander Felfernig, and Monika Mandl
Adaptive Multiagent - Ontology System for SITO Plant Control ............................................................. 15
  Mincho Hadjiski and Venelina Boishina
Self-Adaptation of Semantic Services Based on a Component/Agent Approach: Application to e-Training ................................................................. 21
  Jérôme Lacouture and Philippe Aniorté

Learning Techniques
A Learning Algorithm for Self-Organizing Maps Based on a Low-Pass Filter Scheme ................................................................. 31
  Mauro Tucci and Marco Raugi
An Intelligent System for Petroleum Well Drilling Cutting Analysis ................................................................. 37
  Aparecido N. Marana, Giovani Chiachia, Ivan R. Guilherme,
  and João P. Papa
Deep Blue: A Fuzzy Q-Learning Enhanced Active Queue Management

S. S. Masoumzadeh, G. Taghizadeh, K. Meshgi, and S. Shiry

A Hybrid DTW Based Method for Integration Analysis of Time Series Data

Veselka Boeva and Elena Kostadinova

Self-Organization

Using a Multiagent System to Perceive and to Manage Facts in a Dynamic Situation

Fahem Kebair and Frédéric Serin

A Multi-layered Control Architecture for Self-Management in Adaptive Automotive Systems

Marc Zeller, Gereon Weiss, Dirk Eilers, and Rudi Knorr

Adaptive Agent-Based Self-Organization for Robust Hierarchical Topologies

Evangelos Pournaras, Martijn Warnier, and Frances M. T. Brazier

System Adaptation

Environmental Modeling and Identification Based on Changes in Sensory Information

Manabu Gouko and Koji Ito

Creating Complex, Adaptable Management Strategies via the Opportunistic Integration of Decentralised Management Resources

Yoann Maurel, Ada Diaconescu, and Philippe Lalanda

Free Search - A Model of Adaptive Intelligence

Kalin Penev

Online Processing Techniques

Increasing On-line Classification Performance Using Incremental Classifier Fusion

Davy Sannen, Edwin Lughofer, and Hendrik Van Brussel

Adapting to Increasing Data Availability Using Multi-layered Self-Organising Maps

Toby Smith

A Multi-class Incremental and Decremental SVM Approach Using Adaptive Directed Acyclic Graphs

Honorius Gâlmeanu and Râzvan Andonie
Distributed Anytime Clustering Using Biologically Inspired Systems ...........................................120
   Gianluigi Folino, Agostino Forestiero, and Giandomenico Spezzano

Adaptive Nature-Inspired Techniques
A Comparison of Genotype Representations to Acquire Stock Trading Strategy Using Genetic Algorithms .................................................................129
   Kazuhiro Matsui and Haruo Sato
Particle Swarm Optimization with Polymorphic Update Rules ......................................................135
   Christian Veenhuis
Towards the Automatic Evolutionary Prediction of the FOREX Market Behaviour .................................................................141
   Karel Slaný
Particle Swarm Optimization with Velocity Adaptation .................................................................146
   Sabine Helwig, Frank Neumann, and Rolf Wanka

Adaptive Control
From Symptoms to Faults: Temporal Reasoning Methods .............................................................155
   Jaromír Kukal, Karel Macek, Jiří Rojiček, and Jana Trojanová
Intelligent Predictive Control - Application to Scheduled Crystallization Processes .................................................................160
   Luis Alberto Paz Suárez, Petia Georgieva, and Sebastião Feyo de Azevedo
Neuro-Fuzzy Control of Antilock Braking System Using Variable-Structure-Systems-Based Learning Algorithm .................................................................166
   Andon V. Topalov, Erdal Kayacan, Yesim Oniz, and Okyay Kaynak

Clustering and Data Mining
Overlapping Communities Generation for Online Support Forums ..............................................175
   Fang Wang, Hakan Duman, Duong Nguyen, and Simon Thompson
A New Measure of Stability of Clustering Solutions: Application to Data Partitioning .................................................................181
   Sriparna Saha and Sanghamitra Bandyopadhyay
A Dynamic Adaptive Calibration of the CLONALG Immune Algorithm .........................................187
   María Cristina Riff and Elizabeth Montero
Mining the Largest Quasi-clique in Human Protein Interactome ..................................................194
   Malay Bhattacharyya and Sanghamitra Bandyopadhyay

Author Index