EvoAPPS session 1 : Biological Applications

Wednesday 19 April 1110-1300
Room 2

chair : Federico Divina

Enhancing Grammatical Evolution through Data Augmentation: Application to Blood Glucose Forecasting
Jose Manuel Velasco, Oscar Garnica, Sergio Contador, Jose Manuel Colmenar, Esther Maqueda, Marta Botella, Juan Lanchares, Jose Ignacio HIdalgo

Genetic programming representations for multi-dimensional feature learning in biomedical classification
William La Cava, Sara Silva, Lee Spector, Leonardo Vanneschi, Jason Moore

Objective Assessment of Cognitive Impairment in Parkinsons Disease using Evolutionary Algorithm
Chiara Picardi, Jeremy Cosgrove, Stephen L. Smith, Stuart Jamieson, Jane E. Alty

Improving the reproducibility of genetic association results using genotype resampling methods
Elizabeth Piette, Jason Moore

Characterising the influence of rule-based knowledge representations in biological knowledge extraction from transcriptomics data
Simon Baron, Nicola Lazzarini, Jaume Bacardit

EvoAPPS session 2 : Evolutionary Computation for Gaming

Wednesday 19 April 1110-1300
Room 3

chair : Alberto Tonda

Evolving game-specific UCB alternatives for General Video Game Playing
Ivan Bravi, Ahmed Khalifa, Christoffer Holmgård, Julian Togelius

Relief Camp Manager: A Serious Game using the World Health Organization's Relief Camp Guidelines
Hamna Aslam, Anton Sidorov, Nikita Bogomazov, Fedore Berezyuk, Joseph Alexander Brown

Darwin's Demons: Does Evolution Improve the Game?
Terence Soule, Barrie D. Robison, Samantha Heck, Thomas E. Haynes, David Street, Nicholas Wood

Automated Game Balancing in Ms Pacman and StarCraft using Evolutionary Algorithms
Mihail Morosan, Riccardo Poli

Analyisis of Vanilla Rolling Horizon Evolution Parameters in General Video Game Playing
Raluca D. Gaina, Jialin Liu, Simon M. Lucas, Diego Perez-Liebana

Wednesday 19 April 1415-1605
Room 2
chair : Kevin Sim

The Artificial Immune Ecosystem: a bio-inspired meta-algorithm for boosting time series anomaly detection with expert input
Fabio Guigou, Pierre Collet, Pierre Parrend

Empirical Analysis of Optimization Methods for the Real-World Dial-a-Ride Problem
Dilek Arikan, Cetin Oztoprak, Sanem Sariel

Hybrid Algorithms Based on Integer Programming for the Search of Prioritized Test Data in Software Product Lines
Javier Ferrer, Francisco Chicano, Enrique Alba

On the Use of Smelly Examples to Detect Code Smells in JavaScript
Ian Shoenberger, Wiem Mkaouer, Marouane Kessentini

Deep Parameter Tuning of Concurrent Divide and Conquer Algorithms in Akka
David White, Leonid Joffe, Edward Bowles, Jerry Swan

Ranking programming languages for evolutionary algorithm operations
JJ Merelo, Israel Blancas-Álvarez, Gustavo Romero, Pedro Castillo, Pablo García Sánchez, Víctor Rivas, Mario García-Valdez, Amaury Hernández-Águila, Mario Román

A VNS with Parallel Evaluation of Solutions for the Inverse Lighting Problem
Ignacio Decia, Rodrigo Leira, Martín Pedemonte, Eduardo Fernández, Pablo Ezzatti

Evolving Cut-off Mechanisms and other Work-Stealing Parameters for Parallel Programs
Alcides Fonseca, Nuno Lourenço, Bruno Cabral

Driving in TORCS using modular fuzzy controllers
Mohammed SALEM, Antonio Miguel MORA, Juan Julian MERELO, Pablo García-Sánchez

EvoAPPS session 4 : Advances in Optimisation, Feature Selection and Parallelization on Evolutionary Computation

Wednesday 19 April 1415-1605
Room 3
chair : Francisco Fernández De Vega

Numerical optimization of ESA's Messenger space mission benchmark
Martin Schlueter, Mohammed Wahib, Masaharu Munetomo

Preferences-Based Choice Prediction in Evolutionary Multi-Objective Optimization
Manish Aggarwal, Justin Heinermann, Stefan Oehmcke, Oliver Kramer

A performance assessment of evolutionary algorithms in volunteer computing environments: the importance of entropy
Paloma de las Cuevas, Pablo Garcia Sanchez, Mario Garcia-a-Valdez, Juan J. Merelo Guervós

Issues on GPU Parallel Implementation of Evolutionary High-dimensional Multi-objective Feature Selection
Juan José Escobar, Julio Ortega, Jesús González, Miguel Damas, Beatriz Prieto

Embedded Grammars for Grammatical Evolution on GPGPU
Jose Ignacio Hidalgo, Carlos Cervigón, Jose Manuel Velasco, Jose Manuel, Carlos García-Sánchez, Guillermo Botella

EvoAPPS session 5 : Stochastic & Dynamic Environments

Wednesday 19 April 1625-1815
Room 2
chair : Nguyen Trung Thanh

Solving Dynamic Graph Coloring Problem Using Dynamic Pool Based Evolutionary Algorithm
Betul Boz, Gizem Sungu

Road Traffic Rules Synthesis using Grammatical Evolution
Eric Medvet, Alberto Bartoli, Jacopo Talamini

Advancing Dynamic Evolutionary Optimization Using In-Memory Database Technology
Julia Jordan, Wei Cheng, Bernd Scheuermann

An online packing heuristic for the three-dimensional container loading problem in dynamic environments and the Physical Internet
Chi Trung Ha, Trung Thanh Nguyen, Lam Thu Bui, Ran Wang

Pre-Scheduled Colony Size Variation in Dynamic Environments
Michalis Mavrovouniotis, Anastasia Ioannou, Shengxiang Yang

A new multi-swarm particle swarm optimization for robust optimization over time
Danial Yazdani, Trung Thanh Nguyen, Juegen Branke, Jin Wang

The Static and Stochastic VRP with Time Windows and both random Customers and Reveal Times
Michael Saint-Guillain, Christine Solnon, Yves Deville

Wednesday 19 April 1625-1815
Room 3
chair : Neil Urquhart

EVE: Cloud-based Annotation of Human Genetic Variants
Brian Cole, Jason Moore

Integration of Reaction Kinetics Theory and Gene Expression Programming to Infer Reaction Mechanism
Jason White, Ranjan Srivastava

De Novo DNA Assembly with a Genetic Algorithm Finds Accurate Genomes Even with Suboptimal Fitness
Doina Bucur

Meta-heuristically Seeded Genetic Algorithm for Independent Job Scheduling in Grid Computing
Muhanad Younis, Shengxiang Yang, Benjamin Passow

Analysis of Average Communicability in Complex Networks
Qi Bu, Kwok Yip Szeto

Lamarckian and Lifelong Memetic Search in Agent-based Computing
Wojciech Korczynski, Marek Kisiel-Dorohinicki, Aleksander Byrski

Meta-Heuristics for Improved RF Emitter Localization
Sondre Andreas Engebraaten, Jonas Moen, Kyrre Glette

Evolutionary Art using the Fly Algorithm
Zainab Abbood, Othman Amlal, Franck Vidal

Container Vessel Stowage Planning System using Genetic Algorithm
Miri Weiss Cohen, Vitor N. Coelho, Adi Dahan, Itzzik Kaspi

Presenting the ECO: Evolutionary Computation Ontology
Anil Yaman, Ahmed Hallawa, Matt Coler, Giovanni Iacca

Evolutionary Adaptation to Social Information Use without Learning
James M. Borg, Alastair Channon

Evolution and Morphogenesis of Simulated Modular Robots: A Comparison Between a Direct and Generative Encoding
Frank Veenstra, Andres Faina, Sebastian Risi, Kasper Stoy

Overcoming Initial Convergence in Multi-Objective Evolution of Robot Control and Morphology Using a Two-Phase Approach
Tønnes F. Nygaard, Eivind Samuelsen, Kyrre Glette

Interactive Evolution of Complex Behaviours through Skill Encapsulation
Pablo González de Prado Salas, Sebastian Risi

Automated Design of Genetic Programming Classification Algorithms using a Genetic Algorithm
Thambo Nyathi, Nelishia Pillay

Thursday 20 April 0930-1110
Room 3
chair : Carlos Cotta

The Two Regimes of Neutral Evolution: Localization on Hubs and Delocalized Diffusion
David Shorten, Geoff Nitschke

Two-phase strategy managing insensitivity in global optimization
Jakub Sawicki, Maciej Smo\l{}ka, Marcin \L{}o\'s, Robert Schaefer, Piotr Faliszewski

Local Misfit Approximation in Memetic Solving of Ill-posed Inverse Problems
Marcin Łoś, Robert Schaefer, Jakub Sawicki, Maciej Smołka

Avenues for the Use of Multi–State Cellular Automata
Laura Diosan, Anca Andreica, Irina Voiculescu, Imre Boros

Thursday 20 April 1130-1310
Room 3
chair : Anna I Esparcia-Alcázar

Polytypic Genetic Programming
Jerry Swan, Krzysztof Krawiec, Neil Ghani

Evolving rules for action selection in automated testing via genetic programming - a first approach
Anna I. Esparcia-Alcazar, Francisco Almenar, Urko Rueda, Tanja E.J. Vos

Focusing Learning-based Testing away from Known Weaknesses
Christian Fleischer, Jörg Denzinger

Adaptive Batteries Exploiting On-line Steady-State Evolution Strategy
Edoardo Fadda, Guido Perboli, Giovanni Squillero

Brain Programming and the Random Search in Object Categorization
Gustavo Olague, Eddie Clemente, Daniel E. Hernandez, Aaron Barrera

EvoAPPS session 9 :
Evolutionary Feature Selection

Thursday 20 April 1415-1555
Room 3
chair : Mengjie Zhang

Using Particle Swarm Optimisation and the Silhouette Metric to Estimate the Number of Clusters, Select Features, and Perform Clustering
Andrew Lensen, Bing Xue, Mengjie Zhang

Bagging and Feature Selection for Classification with Incomplete Data
Cao Truong Tran, Mengjie Zhang, Peter Andreae, Bing Xue

Surrogate-model based Particle Swarm Optimisation with Local Search for Feature Selection in Classification
Bach Nguyen, Bing Xue, Peter Andreae

Feature Selection in High Dimensional Data by a Filter-Based Genetic Algorithm
Claudio De Stefano, Franecsco Fontanella, Alessandra Scotto di Freca

EvoAPPS session 10 :
Machine Learning Applications for Real World Problems

Thursday 20 April 1615-1745
Room 3
chair : Michael Kampouridis

Pricing Rainfall Based Futures Using Genetic Programming
Sam Cramer, Michael Kampouridis, Alex Freitas, Antonis Alexandridis

Minimization of Systemic Risk for Directed Network Using Genetic Algorithm
Wenshuo Guo, Kwok Yip Szeto

Dynamic Portfolio Optimization in Ultra-High Frequency Environment
Patryk Filipiak, Piotr Lipinski

Continual and One-Shot Learning through Neural Networks with Dynamic External Memory
Benno Lüders, Mikkel Schläger, Aleksandra Korach, Sebastian Risi

Friday 21 April 0945-1115
Room 2
chair : Fabio D'Andreagiovanni

Configuring Dynamic Heterogeneous Wireless Communications Networks using a Customised Genetic Algorithm
David Lynch, Michael Fenton, Stepan Kucera, Holger Claussen, Michael O'Neill

Multi-Objective Evolutionary Algorithms for Influence Maximization in Social Networks
Doina Bucur, Giovanni Iacca, Andrea Marcelli, Giovanni Squillero, Alberto Tonda

A fast ILP-based Heuristic for the robust design of Body Wireless Sensor Networks
Fabio D'Andreagiovanni, Antonella Nardin, Enrico Natalizio

Hybrid Multi-Ensemble Scheduling
Joerg Bremer, Sebastian Lehnhoff

Friday 21 April 0945-1115
Room 3
chair : Giovanni Iacca

A New Evolutionary Algorithm for Synchronization
Jakub Kowalski, Adam Roman

A Framework for Knowledge Integrated Evolutionary Algorithms
Ahmed Hallawa, Anil Yaman, Giovanni Iacca, Gerd Ascheid

Large Scale Problems in Practice: The effect of dimensionality on the interaction among variables
Fabio Caraffini, Ferrante Neri, Giovanni Iacca

DICE: A New Family of Bivariate Estimation of Distribution Algorithms based on Dichotomised Multivariate Gaussian Distributions
Fergal Lane, R. Muhammad Atif Azad, Conor Ryan