

*Sixth International Conference on Genetic and Evolutionary Computing  
(ICGEC-2012)*

*August 25–28, 2012, Kitakyushu, Japan*

**Call for Paper**  
ICGEC-2012-IS11

**Invited Session on  
Hybrid Evolutionary Computing Algorithm for Feature Subset  
Selection**

**Session Organizer: Prof. Basabi Chakraborty and Prof. Kazunori Kojima**

**Objective:**

Feature subset selection or dimensionality reduction is an essential preprocessing task for pattern classification, data mining or machine learning applications. It comprises of designing a criterion function for evaluation of the feature set and developing a search strategy for selecting the best feature subset from a large number of feature sets. Though lots of statistical and mathematical techniques are available, they are not always suitable for applying to real world problems. The selection of optimal feature subset from a large set of features is basically a combinatorial optimization problem and recently it is found that evolutionary approaches work better for them than the traditional optimization techniques.

Evolutionary computational approaches such as genetic algorithm (GA), particle swarm optimization (PSO), ant colony optimization (ACO) etc. and their hybrids with other soft computing algorithms such as artificial neural network (ANN), fuzzy logic (FL), rough set (RS) etc. are now increasingly applied to feature subset selection problem. The objective of this invited session is to invite researchers with novel ideas on the application of evolutionary computational approaches and their hybrids to feature subset selection for better solutions in terms of optimality and lesser computational power.

**Scope:**

This session invites contribution in all aspects of applying evolutionary computational algorithms and their hybrid with other soft computing techniques for solving feature subset selection problem related to pattern classification, clustering, knowledge extraction and data mining. The topics of interest include (but not limited to)

Topics:

Techniques of feature subset selection based on

- 1) Bio-Inspired Algorithm
- 2) Genetic Algorithms
- 3) Multi objective Genetic Algorithm
- 4) Particle Swarm Optimization
- 5) Ant Colony Optimization
- 6) Hybrid Evolutionary Algorithms
- 7) Hybrid Soft Computing algorithms

**Submissions:**

Papers are invited from prospective authors with interest on the related areas. Each paper should follow the IEEE format with title, author's names, affiliation, email addresses, an up to 150-words abstract, and a two-column body with 4 single-spaced pages and with font size at 10 pts. Details of the required paper format are published at the official ICGEC-2012 website (<http://bit.kuas.edu.tw/~icgec12>). Proceedings of ICGEC-2012 will be published by the Conference Publishing Service of the IEEE Computer Society. Normally, it will be indexed by to IET INSPEC, EI (Compendex), Thomson ISTP, DBLP. All papers must be submitted electronically in PDF format only and be E-mailed to: Prof. Basabi Chakraborty ( [cbasabi@gmail.com](mailto:cbasabi@gmail.com) or [basabi@iwate-pu.ac.jp](mailto:basabi@iwate-pu.ac.jp) ) with a copy to Prof. Kazunori Kojima [kojima@iwate-pu.ac.jp](mailto:kojima@iwate-pu.ac.jp)

**Important Dates:**

Deadline for paper submission: May 31, 2012

Notification of acceptance: June 30, 2012

Deadline for camera-ready manuscript submission: July 15, 2012

**For more information please contact:**

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