CALL FOR PAPERS
Journal of Applied Soft Computing

http://ww.elsevier.com/locate/asoc/
Editor-in-Chief: Prof. Rajkumar Roy

Special issue title:
GRANULAR SOFT COMPUTING FOR PATTERN RECOGNITION AND MINING

Aim and Scope

Granulation is a computing paradigm, among others such as self-reproduction, self-organization, functioning of brain, Darwinian evolution, group behavior, cell membranes, and morphogenesis that are abstracted from natural phenomena. Granulation is inherent in human thinking and reasoning processes. Granular computing (GrC) provides an information processing framework, where computation and operations are performed on information granules (clumps of similar objects or points), and it is based on the realization that precision is sometimes expensive and not very meaningful in modeling and controlling complex systems. When a problem involves incomplete, uncertain, and vague information, it may be difficult to differentiate distinct elements and one may find it convenient to consider granules for its handling. The structure of granulation can often be defined using methods based on rough sets, fuzzy sets or their combination. In this consortium, rough sets and fuzzy sets work synergistically, often with other soft computing approaches, and use the principle of granular computing. Depending on the nature of computing and granules, crisp or fuzzy, one may have granular fuzzy computing or fuzzy granular computing.

The systems, so developed, exploit the tolerance for imprecision, uncertainty, approximate reasoning and partial truth and are capable of achieving tractability, robustness, and close resemblance with human-like (natural) decision-making for pattern recognition in ambiguous situations. The theories are also useful for modeling perception based computation.

The objective of the special issue on “Granular Soft Computing for Pattern Recognition and Mining” is to provide a much needed overview of this interdisciplinary research area as it enters maturity, hosting novel research contributions which (i) augment current tools, models and languages by means of granular soft computing techniques (ii) provide facilities for representing uncertain knowledge and for reasoning in presence of uncertainty, and (iii) potentially applied for PR and data mining tasks. The special issue would provide a forum to help academics, practitioners, post-graduates and policy makers, working in the area of granular soft computing to disseminate information and to learn from each other's work. The intended audiences include: researchers/practitioners, and specialists in academia and industry in granular and soft computing, pattern analysis, data mining and knowledge discovery.
Topics of interest include (but are not limited to)

- Methodologies of information granules (e.g., interval analysis, fuzzy sets, rough sets, random sets)
- Algorithms of information granulation
- System modeling with granular models, e.g., granular neural networks, granular neuro-fuzzy networks, granular rough-fuzzy networks, and more.
- Application of granular models to pattern recognition and data mining tasks such as in
  - Video surveillance
  - Intelligent transport system
  - Biomedical imaging
  - Web mining
  - Bioinformatics
  - Geosciences and Remote sensing
  - Computational theory of perception

Important Dates:

- Deadline for submissions: March 31st, 2012
- First review decision: June 15th, 2012
- Revised review decision: September 15th, 2012
- Final manuscript due: November 1st, 2012
- Expected publication: March 2013

Submission Format

Papers will be evaluated based on their originality, presentation, relevance and novelty, as well as their suitability to the special issue, and for their overall quality. The submitted papers must be written in excellent English and describe original research which has not been published nor currently under review by other journals or conferences. Previously published conference papers should be clearly identified by the authors (at the submission stage) and an explanation should be provided how such papers have been extended to be considered for this special issue. Guest editors will make an initial determination of the suitability and scope of all submissions. Papers that either lack originality, clarity in presentation or fall outside the scope of the special issue will not be sent for review and the authors will be promptly informed in such cases. All submitted papers will be strictly peer-reviewed by at least two independent reviewers. Author guidelines for preparation of manuscript can be found at http://ees.elsevier.com/asoc.

Submission Guidelines

All manuscripts and any supplementary material should be submitted through the manuscript central of the Elsevier Editorial System (EES). The authors must select as “Special Issue: GRANULAR SOFT COMPUTING” when they reach the “Article Type” step in the submission process. The EES website is located at: http://ees.elsevier.com/asoc/.
Guest-Editors:

Prof. Sankar K. Pal,
Center for Soft Computing research,
Indian Statistical Institute,
203 Barrackpore Trunk Road,
Kolkata 700 108, INDIA
Email: sankar@isical.ac.in

Dr. Saroj K. Meher,
Systems Science and Informatics Unit,
Indian Statistical Institute,
8th Mile, Mysore Road, RVCE Post,
Bangalore-560059, INDIA
Email: saroj.meher@isibang.ac.in