PARALLEL
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LETTERS

Call for Papers

A Special Issue of the
Parallel Processing Letters Journal on

"Community Structures in Networks:
Methods and Applications"

Networks in various application domains exhibit an internal structure: they consist of tightly connected components that are more loosely connected to the rest of the network. These components, known as *communities,* offer to the network structural properties that have proven valuable in various application domains. Mining such community structures is a valuable tool that can enhance the functionality of networks and applications. The uncovering of such structures is a fundamental problem in complex networks ανδ occurs in a variety of forms.

The advent of Web 2.0 technology has accelerated the need to analyse network structures like web communities, social network relations, and in general user's collective activities. The newly emerging applications came along with a different set of problem parameters and demands due to the enormous data size and complexity, rendering prohibitive the static handling of data and raising the demand for flexible solutions.

Although community finding in networks is an old problem with a richness of solutions, novel emerging applications brought the problem into the surface with a revised set of demands and a whole new set of assumptions and parameters. What was known to be an isolated problem in complex network theory came to evolve in a whole new area of research, raining new issues and opening a multitude of new perspectives.

The aim of this special issue is to capture the latest developments in the state-of-the-art for community finding. Furthermore, it aims to expose novel and emerging results and ideas in the field, especially in terms of algorithm design and novel techniques development, performance measurements and benchmark studies, and especially Web 2.0 applications that exploit community finding to their benefit, and strengthen new directions in the field.

Topics for potential articles of this special issue include, but are certainly not limited to the following:
- New methods and techniques for community finding
- Distributed and local perspective algorithms for community finding
- Community finding in scale-free and complex networks
- Self-adaptive and bio-inspired algorithms for community mining
- Mining communities in dynamic networks (whose structure evolves over time)
- Self-organization of community structures
- Evolution of community structures
- Novel applications for community finding algorithms
- Web based application of community finding
- Advertising systems based on community finding algorithms
- Communities in mobile and wireless networks
- Community finding for content delivery and distribution
- Community structures in social networks
- Mining Web communities
- Community finding in semantic networks

- Community finding for content distribution
- Effect of community finding on social networking platforms
- Community structures to facilitate search
- Applications - storage, streaming, caching, downloading, collaborative, P2P
- Crawling online tools for automated mining of community structures
- Benchmark methods for testing community finding algorithms
- Exploring community structure to tune the performance of distributed systems
- Performance measurements on real networking platforms
- Community finding algorithms for image analysis and multimedia applications

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Important Dates

Paper submission:
30-09-2011

Acceptance notification:
30-11-2011

Final papers:
15-01-2012

Tentative publication:
March 2012

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Submission Format and Guidelines

All submitted papers must be written in English and contain original work which has not been published by or is currently under review for any other journal or conference. Papers must not exceed 16 pages including figures, tables, and references. All manuscripts and any supplementary material should be submitted by email to one of the Guest Editors.

For more information on submission format and guidelines, potential authors should refer to the journal's official page: http://www.worldscinet.com/ppl/mkt/guidelines.shtml