

The International Journal of Cognitive Informatics and Natural Intelligence (IJCiNi)

Editor-in-Chief, Prof. Yingxu Wang, PhD, PEng, FWIF, SMIEEE, MACM

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CALL FOR PAPERS

Special Issue on Cognitive Foundations of Software Engineering Guest Editors: Yousheng Tian and Shushma Patel

A profound issue in software science and engineering is that software is not constrained by physical laws. Therefore, the exploration of the cognitive informatics foundations of software and software engineering (SE) is crucially important. This effort will help to understand the nature of software and its mathematical, informatics, cognitive, systematic, and intelligent behavioral properties. Based on this, software engineering may be well organized on a solid theoretical foundation. New methodologies and novel mathematical means may be discovered or created for software behavior description, programming psychology, program comprehension, and efficient transformation of skills and experiences in software engineering.

This special issue on *Cognitive Foundations of Software Engineering* in *IJCiNi* will focus on latest research that explores the cognitive and informatics nature of software, the properties of software in the aspects of cognitive complexity, instructive information, and intelligent behaviors. Original papers are solicited for this special issue. Suggested topics include, but are not limited to:

- Nature of software
 - The product metaphor
 - The mathematical metaphor
 - The information metaphor
 - The intelligent behavioral metaphor
 - The system metaphor
 - Laws of software
 - Laws of software engineering
- Informatics foundations of software engineering
 - Informatics laws of software
 - Relationship between data, information, and knowledge
 - Web informatics
 - Neural informatics
 - Software as instructive information
 - Software as behavioral information
- Cognitive foundation of software engineering
 - Cognitive complexity of software engineering
 - Autonomic computing
 - Cognitive computing
 - Human factors in software engineering
 - Software comprehension
 - Autonomic learning
 - Programming psychology
 - Formal semantics of software patterns
- Intelligent behavioral foundations of SE
 - Software: transformation between instructive information and intelligent behaviors
 - System behaviors modeling
 - Knowledge representation
 - Knowledge acquisition
 - Knowledge manipulation
 - Knowledge transformation
 - Software agent technology
 - Autonomic computing

Prospective authors may check the Guidelines for Authors of *IJCiNi* at <http://www.enel.ucalgary.ca/IJCINI/>. Submitted papers must not have been previously published or be currently under consideration for publication elsewhere except those being declared as a conference paper. All papers will be rigorously refereed. Complete manuscripts in both Word and PDF formats should be submitted to the Editors before **Dec. 1, 2007**.

Guest Editors

Dr. Yousheng Tian
Xian Jiaotong Univ., China
Tel: +86 29 8266 3410
Fax: +1 403 282 6855
tiany@ucalgary.ca

Dr. Shushma Patel
South Bank Univ., London, UK
Tel: +44 207 815 7412
Fax: +44 207 815 7488
shushma@lsbu.ac.uk

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