

# Journal of Applied Computer Science Methods

---

Published by University of Social Sciences



---

Volume 7   Number 2   2015

University of Social Sciences, IT Institute



**INTERNATIONAL JOURNAL OF APPLIED COMPUTER SCIENCE METHODS (JACSM)**  
is a semi-annual periodical published by the University of Social Sciences (SAN)  
in Lodz, Poland.

PUBLISHING AND EDITORIAL OFFICE:  
University of Social Sciences (SAN)  
Information Technology Institute (ITI)  
Sienkiewicza 9  
90-113 Lodz  
Tel.: +48 42 6646654  
Fax.: +48 42 6366251  
E-mail: [acsm@spoleczna.pl](mailto:acsm@spoleczna.pl)  
URL: <http://acsm.spoleczna.pl>

Print: Mazowieckie Centrum Poligrafii, ul. Duża 1, 05-270 Marki, [www.c-p.com.pl](http://www.c-p.com.pl), [biuro@c-p.com.pl](mailto:biuro@c-p.com.pl)

---

Copyright © 2015 University of Social Sciences, Lodz, Poland. All rights reserved.

---

#### **AIMS AND SCOPE:**

The **International Journal of Applied Computer Science Methods** is a semi-annual, refereed periodical, publishes articles describing recent contributions in theory, practice and applications of computer science. The broad scope of the journal includes, but is not limited to, the following subject areas:

**Knowledge Engineering and Information Management:** *Knowledge Processing, Knowledge Representation, Data Mining, Machine Learning, Knowledge-based Systems, Knowledge Elicitation, Knowledge Acquisition, E-learning, Web-intelligence, Collective Intelligence, Language Processing, Approximate Reasoning, Information Archive and Processing, Distributed Information Systems.*

**Intelligent Systems:** *Intelligent Database Systems, Expert Systems, Decision Support Systems, Intelligent Agent Systems, Artificial Neural Networks, Fuzzy Sets and Systems, Evolutionary Methods and Systems, Hybrid Intelligent Systems, Cognitive Systems, Intelligent Systems and Internet, Complex Adaptive Systems.*

**Image Understanding and Processing:** *Computer Vision, Image Processing, Computer Graphics, Pattern Recognition, Virtual Reality, Multimedia Systems.*

**Computer Modeling, Simulation and Soft Computing:** *Applied Computer Modeling and Simulation, Intelligent Computing and Applications, Soft Computing Methods, Intelligent Data Analysis, Parallel Computing, Engineering Algorithms.*

**Applied Computer Methods and Computer Technology:** *Programming Technology, Database Systems, Computer Networks Technology, Human-computer Interface, Computer Hardware Engineering, Internet Technology, Biocybernetics.*

---

#### **DISTRIBUTION:**

Apart from the standard way of distribution (in the conventional paper format), on-line dissemination of the JACSM is possible for interested readers.