

Table of Contents

International Journal of Web Services Research

Volume 18 • Issue 4 • October-December-2021 • ISSN: 1545-7362 • eISSN: 1546-5004

Improved Recommendation Service

Editorial Preface

v Liang-Jie Zhang, , Kingdee International Software Group Co. Ltd., China

Research Articles

- 1 **A Novel PageRank-Based Fault Handling Strategy for Workflow Scheduling in Cloud Data Centers**
Fei Xie, University of Wollongong, Australia
Jun Yan, University of Wollongong, Australia
Jun Shen, University of Wollongong, Australia
- 27 **Intelligent and Adaptive Web Page Recommender System**
Geeta Rani, Manipal University Jaipur, India
Vijaypal Singh Dhaka, Manipal University Jaipur, India
Sonam, Manipal University Jaipur, India
Upasana Pandey, IMS Engineering College, Ghaziabad, India
Pradeep Kumar Tiwari, Manipal University Jaipur, India
- 51 **A Graph Neural Network-Based Algorithm for Point-of-Interest Recommendation Using Social Relation and Time Series**
Mingjun Xin, School of Computer Engineering and Science, Shanghai University, Shanghai, China
Shicheng Chen, School of Computer Engineering and Science, Shanghai University, Shanghai, China
Chunjuan Zang, School of Computer Engineering and Science, Shanghai University, Shanghai, China
- 75 **Verification of Composed Web Service Using Synthesized Nondeterministic Turing Model (SNTMM) With Multiple Tapes and Stacks**
Thilagavathi N., Periyar Maniammai Institute of Science and Technology, India
Lakshmi K., Periyar Maniammai Institute of Science and Technology, India

COPYRIGHT

The **International Journal of Web Services Research (IJWSR)** (ISSN 1545-7362; eISSN 1546-5004), Copyright © 2021 IGI Global. All rights, including translation into other languages reserved by the publisher. No part of this journal may be reproduced or used in any form or by any means without written permission from the publisher, except for noncommercial, educational use including classroom teaching purposes. Product or company names used in this journal are for identification purposes only. Inclusion of the names of the products or companies does not indicate a claim of ownership by IGI Global of the trademark or registered trademark. The views expressed in this journal are those of the authors but not necessarily of IGI Global.

The *International Journal of Web Services Research* is indexed or listed in the following: ABI/Inform; ACM Digital Library; Bacon's Media Directory; Burrelle's Media Directory; Cabell's Directories; Compendex (Elsevier Engineering Index); CSA Illumina; Current Contents®/Engineering, Computing, & Technology; DBLP; DEST Register of Refereed Journals; EBSCOhost's Library/Information Science & Technology Abstracts with FullTEXT; Gale Directory of Publications & Broadcast Media; GetCited; Google Scholar; INSPEC; JournalTOCs; Library & Information Science Abstracts (LISA); MediaFinder; Norwegian Social Science Data Services (NSD); PubList.com; SCOPUS; The Index of Information Systems Journals; The Standard Periodical Directory; UGC-CARE List (India); Ulrich's Periodicals Directory; Web of Science; Web of Science Science Citation Index Expanded (SCIE)