Editorial Preface

Web Service Discovery, Classification, Composition, and Interaction

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This regular issue of the *International Journal of Web Services Research* (JWSR) collects five papers.

The first paperntitled "An Efficient User-Centric Web Service Composition Based on Harmony Particle Swarm Optimization" focuses on web service composition based on functional and non-functional characteristics such as quality of service (QoS) and context attributes. Fekih et al. proposed a new service composition approach based on a new hybrid version of the Harmony Search and the Particle Swarm Optimization. The proposed approach was designed to generate the best web service composition in a discrete search space, and the experimental results indicated the effectiveness and accuracy of the proposed approach.

In the second paper titled "Discovering Important Services Based on Weighted K-Core Decomposition," Wang et al. investigated an essential problem in the field of Services Computing and proposed a novel approach to discover important Web services based on service networks and the weighted k-core decomposition approach. The experimental results on a real-world dataset crawled from the website ProgrammableWeb showed the effectiveness of the proposed approach.

The third paper titled "Adaptive BPEL Service Compositions via Variability Management: A Methodology and Supporting Platform" by Sun et al. proposed a variability management-based adaptive and configurable service composition approach. The proposed approach provides a unified framework with an extended language called VxBPEL to support variability in service compositions as well as a comprehensive platform for the design, execution, analysis, and maintenance of VxBPEL-based service compositions. The case studies demonstrated the feasibility of the proposed approach and the effectiveness of the supporting platform.

In the fourth paper titled "Ontology-Based Smart Sound Digital Forensics Analysis for Web Services," Akremi et al. attempted to solve the challenges of Web service analysis and events tracking in the context of big data. They introduced a semantic-based ontology representation of Web service data, extended the Incident Object Description Exchange Format to support Web service specification, and implemented a set of interfaces enabling the definition of SWRL rules and SPARQL queries.

The fifth paper titled "Augmenting Labeled Probabilistic Topic Model for Web Service Classification" aims to address the problems in existing service classification approaches such as low classification accuracy. Pang et al. proposed a novel approach for Web service classification that applied word embedding to extend original service descriptions semantically and learned labeled LDA models as a service classifier. The experimental results demonstrated that the proposed approach outperformed the state-of-the-art methods in terms of service classification accuracy and convergence speed.

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