Improved Recommendation Service

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

In the first article entitled “A Novel PageRank-Based Fault Handling Strategy for Workflow Scheduling in Cloud Data Centers,” Xie et al. focused on handling the problem of unexpected faults in unscheduled cloud outages. They proposed a novel PageRank-based fault handling strategy to rescue workflow tasks at the faulty data center. The proposed approach uses a holistic view and considers the task attributes, the timeline scenario, and the overall cloud performance. The simulation results show that the proposed approach can achieve better fault handling performance.

In the second article entitled “Intelligent and Adaptive Web Page Recommender System,” Rani et al. proposed a new recommender system that provides personalized, global, and group modes of recommendations. The proposed system takes cues from crowd psychology to augment two parameters for modeling group behavior: uniformity and recommendation strength. Also, it continuously tracks user responses to adaptively switch between different recommendation criteria in the group and personalized modes. The experimental results indicate that the proposed system achieved the maximum F1 score of 83.28% on the CTI dataset.

In the third article entitled “A Graph Neural Network-Based Algorithm for Point-of-Interest Recommendation Using Social Relation and Time Series,” Xin et al. found that the context information of the collaborative signal was not encoded in the embedding process of traditional POI recommendation methods, making it different to capture the collaborative signal among different users. Therefore, they presented a POI recommendation algorithm using a social-time context graph neural network (GNN) model in location-based social networks. Experiments on real-world datasets show that the proposed model is superior to the state-of-the-art POI recommendation methods.

In the fourth article entitled “Verification of Composed Web Service Using Synthesized Nondeterministic Turing Model (SNTMM) With Multiple Tapes and Stacks,” Thilagavathi et al. proposed a Synthesised Non-deterministic Turing Machine Model (SNTMM) by combining the Multistacked Non-deterministic Turing Machine (MSNTM) model and Multitaped Non-deterministic Turing Machine (MTNTM) model to verify the composed Web services for both deterministic and non-deterministic systems in parallel. The experimental results indicate that the performance of the proposed model can be measured efficiently.

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Liang-Jie (LJ) Zhang received his Ph.D. in Pattern Recognition and Intelligent Control from Tsinghua University. Currently, he is the Chief Technology Officer (CTO) and Senior Vice President of Kingdee International Software Group Company Limited. Dr. Zhang has published more than 160 technical papers in journals, book chapters, and conference proceedings. He has 50 granted patents. He was elected as an IEEE Fellow in 2011, and in the same year, won the Technical Achievement Award for pioneering contributions to Application Design Techniques in Services Computing from the IEEE Computer Society. He has served as the President of Shenzhen Big Data Alliance since 2013. Dr. Zhang is the Editor-in-Chief of the International Journal of Web Services Research (IJWSR).