

Guest Editorial Preface

Service Computing Innovations in the Cloud, Edge, and Fog Environment

Chia-Huei Wu, Minghsin University of Science and Technology, Taiwan

Sang-Bing Tsai, Regional Green Economy Development Research Center, School of Business, Wuyi University, China

Lianyong Qi, Qufu Normal University, China

Yuan Yuan, Michigan State University, USA

Xuyun Zhang, Macquarie University, Australia

The recently emerged new computing paradigms, such as Edge / Fog computing, aim at distributing services away from centralized data processing centers by exploiting the concept of cloudlets. To meet the increasing demand for cloud services from emerging applications such as Internet-of-Things (IoT), big data and block chains, researchers are encouraged to use services located at the edge or fog of the network instead of centralized cloud services. While the Edge / Fog services that are utilized to offload computation are usually closer to a user compared to the centralized cloud services.

Edge/ Fog computing, on one hand, brings services closer to users, on the other hand, requires extension to current cloud service computing models. And the use of edge and fog computing paradigms brings additional challenges in terms of resource allocation, performance optimization, energy cost, link switch, and so on. Moreover, the use of these new computing paradigms also brings additional challenges in terms of various service performances such as response time, security and privacy issues. Therefore, it becomes a necessity to explore the innovative service computing technology adapted to the Cloud / Edge / Fog computing paradigms so as to provision users with high-quality service performances.

However, the current integration of services computing technology and Cloud / Edge / Fog computing paradigms still face a series of challenges and difficulties. Therefore, it becomes a necessity to combine the advantages of both the services computing technology and the Cloud / Edge / Fog computing paradigms. This special issue aims to highlight the cutting-edge research and applications related to the “Service Computing Innovations in the Cloud, Edge and Fog Environment”.

Chia-Huei Wu

Sang-Bing Tsai

Lianyong Qi

Yuan Yuan

Xuyun Zhang

Guest Editors

IJITSA