IEEE BigDataService 2016 conference

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Big Data computing and service is becoming a very sought after research and application subject in academic research, industry and government services. Today, with the fast advance of Big Data science, analytics and technology, Big Data researchers and application professionals have access to diverse data mining and machine learning algorithms, open-source platforms and tools, and cloud DB technology and Big Data access technologies.

Emergent Big Data computing and services can be used in many disciplines and diverse applications, including business management, library science, energy and environment, education, biomedical, healthcare and life science, social media and networking, smart city and travel, transportation, etc.

Establishing and conducting successful Big Data projects in different domain applications require the following essential and critical entities:

- Big Data banks and resources with quality data collection, validation, evaluation and certification methods and standards.
- Scalable and efficient Big Data computing services.
- Well-defined domain-specific Big Data knowledge engineering and analytic intelligence.
- Well-developed Big Data infrastructures supported with high-quality Big Data DB technologies and tools.

The IEEE BigDataService conference series was established to address the above needs. The major objective is to provide a platform for researchers and practitioners to exchange innovative ideas and research results, share application experiences and lessons.

The three major objectives of the conference are:

- Big Data Innovation of Big Data computing and service models, theories, tools, solutions and technologies.
- Big Data and Service Sharing in Big Data banks and resources, portals, platforms, and open-sources, technology and tools.
- Big Data Applications in real-world Big Data application service projects for major application domains, including energy and environment, medical and healthcare, library, social media and networking and education.

This special issue of the International Journal of Data Science and Analytics includes a collection of extended versions of some selected papers from the IEEE BigDataService 2016 conference, which was held at Exeter College, Oxford, UK, on March 29–April 1, 2016.

"The Matsu Wheel: a reanalysis framework for Earth satellite imagery in data commons" reports on a framework for handling Big Data from earth observation satellites that sprung from a joint project with NASA.

"Improving the prediction of wind power ramps using texture extraction techniques applied to atmospheric pressure fields" presents machine learning techniques on meteorological data, with important applications in wind power generation.

"Cell phone Big Data to compute mobility scenarios for future smart cities" investigates how location data from mobile phone users can be leveraged for decision support in running smart cities.

We hope that this special issue will give an inspiring overview of current developments in Big Data services, theory, and applications.

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