PREFACE

This special issue of Serdica Journal of Computing is dedicated to the 10th anniversary of the Department of Software Engineering (DSE) at the Faculty of Mathematics and Informatics (FMI) of the St. Kliment Ohridski University of Sofia. DSE was established in March 2007 and is the youngest department within FMI. It is the first department in Bulgaria whose curriculum includes all aspects of the whole life cycle of software systems. DSE was created to meet the needs of the Bulgarian IT industry for highly qualified software engineers and to contribute to the development of a stronger and more modern national economy.

In 2006 part of DSE's future staff created the first BSc programme in Software Engineering in Bulgaria that adheres to the world standards for university curricula and programmes of ACM/IEEE. Today BSc SE is one of the top 10 most attractive areas of study at the Sofia University. The first Software Engineering MSc programme in Bulgaria (FMI, 2004) was also proposed by part of the future staff of DSE. In 2007 DSE offered the first MSc programme in Technology Entrepreneurship and Innovation in IT in the country. It was created with the assistance of the University of California, Berkeley, Intel, and entrepreneurship professors from Europe and Asia. DSE also offers MSc programmes in Information security in computer systems and networks, Technologies for knowledge and innovations, and Information Retrieval and Knowledge Discovery. DSE strives to provide high-level education by preparing skilled staff for business and academia—knowledgeable and capable, enterprising and creative. Over the past 10 years DSE has successfully trained 2400 BSc and MSc students, as well as 31 PhD students,

eight of whom have already graduated. Some of the more entrepreneurially oriented PhD and MSc students of DSE founded more than 10 start-up companies, including Komfo, Imagga, Gymzap, WebMotion, ThreeChess, Robopartans, EssenceWorks, Dreamix, creating more than 100 high-tech jobs in the country.

The high quality of education is a result of the high level of theoretical and applied research carried out at DSE. The members of the DSE have been involved in more than 30 research projects. The main research areas are Software processes and agile methodologies, Service Oriented Architectures, Software quality and testing, Information Retrieval, Knowledge Discovery, Data Science, Technology entrepreneurship and Knowledge management.

The five articles in this issue illustrate some of these research results.

"Big data research and application—systematic literature review" is not only a systematic literature review, but also provides a holistic view of Big Data challenges as a result of a thorough analysis of the state-of-the art research and applications.

"Self-adaptive microservice architectures" concentrates on the current lack of understanding on how microservices can utilize the notion of self-adaptiveness and proposes a systematic overview of the current solutions in the field.

"Workflows in dynamic software systems" presents a newly conceived software platform that allows business users (domain experts) to define at run time all business objects that they will work with, their properties, relationships, and restrictions of their business/domain model. Consequently, they can use them to populate data in the application and later apply this data for data extraction, analysis, visualization, and reporting.

"How to account for the uncertainty in QoS selection task" presents an approach for QoS selection of web services. It introduces a theoretical frame and respective applicable procedures where the selection is carried out taking into account the assessment of uncertainty of the metrics data and the client's preferences.

"A web application for text document classification based on k-nearest neighbour algorithm" proposes a relatively simple solution to the text document categorization problem and its implementation in a software product.

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