
Preface

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Grid and cloud computing is a rapidly developing computing paradigm that facilitates infrastructure, computational resources, databases, networks and services, to be shared among many effectively and on demand basis. Over the last few years there has been a real exploration of new ideas to drive the technology towards a new horizon. This has gained attention from both academia and industry in many countries and is considered as one of the highly influential technologies in the 21st century for effective sharing of different resources through cloud, grid, and distributed networking. This special issue contains ten contributions from the allied fields of grid and cloud computing.

The first paper, entitled 'Collective advancements on access control scheme for multi-authority cloud storage system', by Balamurugan Balusamy and P. Venkata Krishna, proposes a framework for enhancement of security of DAC-MAC for the user registration by the advent of digital signature for avoiding man-in-the-middle attack and providing non-repudiation during the user registration phase.

The second paper, entitled 'Support vector machine-based stuttering dysfluency classification using GMM supervectors', by P. Mahesha and D.S. Vinod, introduces the dysfluency recognition system based on support vector machine using the Gaussian mixture model supervector. They also report the experimental evaluation of the proposed system.

The third paper, entitled 'An efficient methodology to improve the service negotiation in cloud environment', by Mohan Manoharan and Saraswathi Selvarajan, proposes a methodology to improve the QoS of cloud computing based service provider to provide better services.

The fourth paper, entitled 'Fast query by humming System based on complex multiscale music entropy and CMMEB Kd tree', by Trisiladevi C. Nagavi and Nagappa

U. Bhajantri, proposes a fast QBH content-based music retrieval technique based on the estimation of Complex Multiscale Music Entropy (CMME), which is based on the statistical reliability through the CMME for approximation of music signals.

The fifth paper, entitled 'Text-to-speech synthesis with an Indian language perspective', by Soumya Priyadarsini Panda, Ajit Kumar Nayak and Srikanta Patnaik, highlights the overview of the text to speech synthesis technology along with details of the phases involved, specially for Indian languages.

The sixth paper, entitled 'The design of tractor CAN bus intelligent node based on dual-core processor', by Qingmei Cao and Zhili Zhou, describes the design scheme, which is based on dual-core processor MC9S12XD, for software and hardware of intelligence communication nodes of the tractor can bus network.

The next paper, entitled 'Semi-partitioned scheduling for fixed-priority real-time tasks based on intelligent rate monotonic algorithm', by Saeed Senobary and Mahmoud Naghibzadeh, proposes a new semi-partitioned scheduling algorithm on multiprocessor platforms, based on intelligent rate monotonic algorithm.

The next paper, entitled 'Hardware implementation based on FPGA of semaphore management in μ C/OS-II real-time operating system', by Shi-hai Zhu, proposes a hardware design scheme to implement semaphore management based on a field programmable gate array in order to enhance response capability of real-time operating systems.

The next paper, entitled 'Network congestion control methods and theory', by Wei Wu, Wencai Du and Guolong Ruan, describes the latest research on TCP/IP network congestion and control theory related to congestion control, and analyses different characteristics and control methods, current challenges and future research directions.

The next paper, entitled ‘The architecture design of the wearable health monitoring system based on internet of things technology’, by Xiaohui Wang, proposes the architecture of the wearable health monitoring system composed of wearable sensor system, network transmission system and information processing system on the basis of the three-layer architecture of the internet of things.

The last paper, entitled ‘BSN-mesh and its basic parallel algorithms’ by Wenhong Wei, Qingxia Li and Ming Tao,

proposes the BSN-Mesh as a two-tier architecture taking the advantages from both tiers, such as topological structure and basic algorithms such as broadcast, data sum, prefix sum, packet routing, etc.

We are sure that the researchers in this domain will immensely benefit from this special issue. We thank all the authors who have contributed articles in this issue and are working in this domain towards a great future in their academic endeavour.