

Preface

Information technology has suddenly penetrated into human cultures and has become inseparable part of our daily life. Presently, humans are getting benefits of this wave. Media is focusing high on the developments on topics of information technology, multimedia, Internet, and allied technologies. These aspects of information technology have rapidly affected the way we work, live, and play and we will never be the same.

The fact that the ICTs have not only changed lifestyles of individuals but have a large impact on societies. Information is flowing across globe and now effortlessly accessible. The ICTs are raising the quality of life. Advances in theoretical understanding of information technologies and their widespread development and implementations are causing transformations in the areas as diverse as education, research, healthcare, science, entertainment, government, international trade, education, commerce and many others. The technological advancement in processing, storage, transmission, and sharing of information are taking place at an unprecedented pace. The access to updated information, without spatial or temporal constraints has made information an economic resource structuring and shaping today's society.

Information Technology has changed the means of doing and developing business. Many businesses are now virtual office based. Online trades have replaced and influenced traditional methods of local and global trading. Businesses are adopting contemporary IT enabled mechanism for fast and efficient business transactions

Imagining the significance towards achieving the objectives of expanding and implement information technology in society, a three days conference on Frontiers of Information Technology was organized by the COMSATS Institute of Information Technology (CIIT) from 17th to 19th December, 2012 at Serena Hotel, Islamabad. The 10th event of the conference was celebrated by inviting renowned academician and IT professionals. The conference was conducted in collaboration with Higher Education Commission of Pakistan (HEC), National Testing Service (NTS), National ICT R&D Fund Pakistan, and technically co-sponsored by IEEE, IEEE Computer Society's Technical Committee on Scalable Computing, and IEEE Industrial Electronics Society.

It gave us immense pleasure to introduce this collection of papers and abstracts that have been presented at this ninth International conference on Frontiers of Information Technology (FIT 2012). The event brought together several experts, researchers and scientists from around the world to share their research and development experiences in the field of Information Technology with a select gathering of intelligencia, policy planners, analysts, academicians, industry professionals and a fairly diverse representation from other members of civil society. The conference centered on identifying and expressing with clarity and effectiveness the research and development challenges and agenda in Information Technology. Technical papers presented in the conference were from following areas:

- Communication and Networking
- Scalable Computing
- Industrial Electronics
- Computer Graphics, Image Processing and Pattern Recognition
- Embedded systems
- Artificial Intelligence
- Software Engineering
- Distributed and Grid Computing
- Robotics/control systems
- Green technologies

In FIT 2012, 286 submissions were received, out of which 63 technical papers and 6 PhD symposium were accepted yielding an acceptance rate of 24.12%. In addition to technical papers and PhD symposium, tutorials were also part of the conference program. We are thankful to all those who submitted papers for consideration. The submissions were received from 29 countries including Pakistan. Most of these submissions were from China, Italy, Korea, Malaysia, Pakistan, and United States. Due to large number of submissions and strict evaluation process that ensured that only high quality submissions were accepted. Many good papers could not be accepted and we would like to encourage those authors to improve and update these papers and resubmit in next FIT. Gone through strict evaluation process many papers fell short of the selection criteria and we would like to encourage them to keep submitting in the next year FIT conference. We are also very grateful to those colleagues and organizations that helped us in organizing the conference. In particular, we would like to thank the members of the FIT 2012 Program Committee which we hope will offer their help again in organizing the next year's conference. We would also like to thank Higher Education Commission (HEC), National Testing Service (NTS) and COMSATS IIT administration for managing all aspects of the conference.

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