

Preface

Visual informatics – a multidisciplinary field of computer science, information technology, and engineering and it is already well accepted among researchers and industry practitioners in these fields. Basic research areas such as computer vision, image processing, pattern recognition, computer graphics, simulation, virtual reality, information and data visualization as well as social computing, have been applied in various knowledge domains such as education, medicine and health, finance, agriculture, and security. The Institute of Visual Informatics (IVI), Universiti Kebangsaan Malaysia (UKM) – or The National University of Malaysia – is a Center of Excellence (CoE) established as an outcome of the first Visual Informatics Conference (IVIC) held in 2009. The institute conducts research in the aforementioned basic areas and offers both masters and doctoral (PhD) degree programs by research. Since its inception in 2010 through 2015, IVI has successfully graduated three (3) masters and thirteen (13) PhD students. We are indeed indebted to the international community from the last three IVIC conferences (2009, 2011, and 2013), who have given us support that has resulted in the establishment of the institute. We fervently hope that IVI will continue to grow to become an international center of excellence in the field of visual informatics through partnerships established at this conference.

The Visual Informatics Research Group and the IVI at UKM once again hosted this 4th International Visual Informatics Conference (IVIC 2015), with the objective of bringing together experts in this very exciting research area so that more concerted research efforts can be undertaken globally. Like the first, second, and third IVIC conferences, this conference was conducted collaboratively by the visual informatics community from several public and private universities and industry from various parts of the world. This fourth conference was co-sponsored by the ICT Cluster of the National Professors' Council (MPN), the Malaysian Information Technology Society (MITS), the Malaysian Research Education Network (MyREN), the Multimedia Development Corporation (MDeC), and the Malaysian Institute of Microelectronic Systems (MIMOS). The conference was co-chaired by five professors from the UK, Ireland, Chile, Taiwan, and Malaysia. The theme of the conference, "Visual Informatics: Future Big Data Intelligence," reflects the importance of big data in this global data-based economy. It also portrayed the belief of the organizers (both locally and globally) of the importance of sharing data that may lead to the creation and innovation of products that would result in cutting-edge and frontier research. Future big data intelligence would allow for more comprehensive, detailed, and accurate analytics to be conducted so that prediction of précised data can be achieved resulting in more efficient and accurate decision making in an open and shared data environment for the better well-being of people. It is particularly appropriate in this slow data-based economic trend around the world, that big data analytics and intelligence have never been more important in order to accelerate economic growth globally. Thus, the theme of the conference was relevant, apt, and timely.

The conference focused on four tracks – Visualization and Big Data, Machine Learning and Computer Vision, Computer Graphics, and Virtual Reality – that lasted for two days (November 17–18, 2015) and ended with a one-day workshop (November 19, 2015). There were five keynote speakers and 45 paper presentations based on topics covered by the four main tracks. The reviewing of the papers was conducted by more than 100 experts of the Program Committee from Asia, Europe, Oceania, and the USA. Each paper was reviewed by three reviewers and the acceptance rate was 55 %. The reviewing process was managed using the system EasyChair. The conference also included a “Round Table Meeting of Experts on the Future of Big Data Analytics in organizations and governments in Malaysia” on the second day of the conference and the conclusions and recommendations made were submitted to the appropriate governing body.

On behalf of the Organizing and Program Committees of IVIC 2015, we thank all authors for their submissions and camera-ready copies of papers, and all participants for their thought-provoking ideas and active participation at the conference. We also thank the vice-chancellor of UKM (host university), and the vice-chancellors and deans of all IT faculties of the IHLs for their support in organizing this conference. We also acknowledge the sponsors, members of the Organizing Committee, the Program Committee members, the support committees, and individuals who gave their continuous help and support in making the conference a success. We believe that IVIC will grow from strength to strength and hope that it can one day be held in different host countries around the world.

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