



VizAfrica 2018 Visualization Symposium

August 20th-21st, 2018, JKUAT Juja (Main Campus), IPIC Building

Keynote Speakers

Data Visualization for Everyone



Prof YUAN Xiaoru, Peking University

Abstract:

Visualization provides essential accesses for users to comprehend such big data and gain insights, which is crucial for decision-makers, political figures, as well as the general public. This talk will discuss visualization cases covering various data we worked on recently. I will demonstrate how different datasets can be integrated for advanced visual analysis. With the assistant of properly designed visualization and interaction, both general public and experts can interactively conduct the data exploration, mental image construction, and insight discovery. In addition to the special algorithms developed dedicated to specific data exploration or analysis problems, we will also demonstrate several novel techniques we developed in the recent years to enable general public without any programming background to use the visualization.

Biography:

Xiaoru Yuan is a tenured faculty member in the School of Electronics Engineering and Computer Science. He serviced as the vice director of Information Science Center, and Deputy vice director of National Engineering Laboratory on Big Data Analysis and Applications. At Peking University. He received Bachelor degrees in chemistry and law from Peking University, China, in 1997 and 1998, respectively. He received the Ph.D. degree in computer science in 2006, from the University of Minnesota at Twin Cities. His primary research interests are in the field of scientific visualization, information visualization and visual analytics. He has co-authored over 90 technical papers in IEEE Visualization, IEEE Information Visualization, IEEE TVCG, IEEE EuroVis, IEEE PacificVis and other major international visualization conference and journals. His co-authored work on high dynamic range volume visualization received Best Application Paper Award at the IEEE Visualization 2005 conference. He and his student team won awards over 8 times in IEEE VAST Challenges. He served on the program committees of IEEE VIS, EuroVis, and IEEE PacificVis. He was organization co-chair of IEEE PacificVis 2009, program chair of VINCI 2010, and poster chair of IEEE VIS 2015/2016 and paper chair of IEEE VIS 2017 and PacificVis 2015. He founded ChinaVis conference in 2014. He also serves on the editorial board of CCF journal of CAD&CG, Springer Journal of Visualization, and as guest editor of IEEE TVCG and IEEE CG&A. He is CCF outstanding member and was chair of CCF YOCSEF (2012-2013). He founded the visualization and visual analytics technical committee in Chinese Society of Image and Graphics (CSIG) and currently serve as the chair of the board. For more information, see <http://vis.pku.edu.cn/wiki>

How improving supply chain concepts and mechanisms can trigger an agricultural revolution in sub-saharan Africa



Adrian van der Knaap

Deputy Regional Director East Africa, World Food Programme (WFP)

Biography:

Adrian van der Knaap is currently WFP's Deputy Regional Director for East Africa in charge of supply chain and support services. Previous positions in WFP include Chief Logistics in HQ, Head of Logistics in the Democratic Republic of Congo, Eritrea, Ethiopia, Angola and Sudan as well as Head of the Sub-Office in Gulu/Uganda and Juba/Sudan. From 2002 to 2006, he helped set-up and led the United Nations Joint Logistics Centre in Rome (the predecessor of the Logistics Cluster) with stints in Afghanistan and Iraq. In addition to WFP, Adrian worked for the Primary Health Care Programme of the Sudan Council of Churches in Khartoum, for Norwegian People's Aid as relief and agricultural rehabilitation project manager in South Sudan as well as Chief of UNHCR's Civil-Military Liaison Group in Zaire with Mobutu's Presidential Guard. In 2007, he was seconded by WFP to FAO's Emergency Division. Prior to joining the humanitarian sector (in 1990), he worked in the banking sector and selection & recruitment business. He studied Law at the University of Amsterdam.

Data Visualization for Better Understanding of Causality



Prof. Koji Koyamada

Academic Center for Computing and Media Studies, Kyoto University, Japan.

Biography:

Prof. Koji Koyamada is currently a professor at the Academic Center for Computing and Media Studies, Kyoto University, Japan. His research interest includes modeling & simulation and visualization. He is an associate member of the Science Council of Japan, a former president of the Visualization Society Japan, and a former president of Japan Society of Simulation Technology. He received the IEMT/IMC outstanding paper award in 1998, the VSJ contribution award in 2009 and the VSJ outstanding paper award in 2010. He received his B.S., M.S. and Ph.D. degrees in electronic engineering from Kyoto University, Japan in 1983, 1985 and 1994, respectively, and worked for IBM Japan from 1985 to 1998. From 1998 to 2001 he was an associate professor at the Iwate Prefectural University, Japan. From 2001 to 2003, he was an associate professor at Kyoto University, Japan

Africa Open Science Platform and Medical Application of Data Visualization



Prof Benjamin Aribisala,

Dean of Faculty of Science, Lagos State University, Nigeria

Biography:

Professor Benjamin Aribisala is a Professor of Computer Science and the Dean of Faculty of Science, Lagos State University. He obtained his PhD degree in Computer Science from the University of Birmingham, United Kingdom. He has BSc degree in Mathematics, from University of Ado Ekiti and MTech. Computer Science from Federal University of Technology, Akure. Professor. Aribisala has worked in the University of Edinburgh, Newcastle University and University of Birmingham, all in the United Kingdom before joining Lagos State University.

Professor Aribisala combines his expertise in Computer Science, Mathematics and Image Analysis to conduct state-of-art clinical research. His current research interests span the fields of image analysis, artificial intelligence and computer vision. He has published several academic articles and given presentations to both local and international audience all over the world, ranging from Nigeria to USA, China, Canada, Austria, Germany, Portugal, Italy and United Kingdom. He is a reviewer for many international journals.

Data and Information Visualization as a Tool for Harnessing Business Intelligence



Mr. Joel Onditi

President and CEO of Pathways International, USA

Biography:

Mr. Onditi is the President and CEO of Pathways International, a data management and analytics consulting company with offices and clients in North America and Africa. He has more than 10 years' experience in systems architecture and development, project management, database and data warehouse architecture, data integration processes, data analytics, big data and IOT technologies. Mr. Onditi holds a Masters degree in Business Intelligence from the University of Denver, Colorado, USA. As a consultant, he has served multiple large US and Canadian companies in developing and operating large scale BI systems in hospitality, telecommunications, manufacturing, financial sectors and for the US government as a federal contractor.

National Spatial Data Infrastructure and Sustainable Development: A Kenyan Perspective



Prof Anthony J. Rodrigues

Director ICT, Jaramogi Oginga Odinga University of Science and Technology, Kenya

Abstract

World leaders adopted Agenda 21, the work program of the 1992 U.N. Conference on Environment and Development in Rio de Janeiro. The land-mark event provided a political foundation and action items to facilitate the global transition toward sustainable development. Ten years later one of the contributions to the World Summit on Sustainable Development held in South Africa, August 2002, was the “Geographic Information for Sustainable Development” project.

In many developing countries common concerns on geospatial data custody have been, ownership, rights, cost, what format the data is stored and managed. The trend towards mitigating these concerns has been to move one level up to the Meta level made possible through technology. At this level data can be managed at source, while providing open standards based access. While both government and society recognize the value of geospatial data, its effective use is inhibited by poor knowledge of the existence of data, poorly documented information about the data sets, and data inconsistencies. Once created, geospatial data may be used by a multitude of government ministries and departments for different purposes. Given the dynamic nature of geospatial data in a networked environment, metadata is therefore an essential requirement for locating, evaluating and using available data. However, despite attempts to jump start the process Kenya does not have a National Spatial Data Infrastructure to date. The metadata model as presented in this paper should be refined and completed through a consultative process to be part of the SDI agreed framework for metadata development in Kenya. Future work will also be necessary to validate the model in specific user communities and at different levels of SDI.

Kenya’s nano satellite – 1KUNS-PF –was launched into outer space in Japan on Friday, 11th May 2018. The University of Nairobi, in collaboration with “Sapienza” University of Rome's Aerospace Research Centre worked to develop a CubeSat . It uses NASA’s Terra Moderate Resolution Imaging Spectroradiometer (MODIS) which the remote sensing unit at the “**Luigi Broglio Space Centre**”

on Kenya's North coast is capable of handling. The urgent completion of Kenya's National Spatial Data Infrastructure is necessary for the efficient and effective use of the 1KUNS-PF data for sustainable development vide an integrated Geographic Information System. Initial agreements between Kenya and Italy for the running of the Italian space centre were crafted in such a way that Kenya only received rent for hosting the facility. However, these fifteen year agreements have since been renegotiated leveraging Kenya's fledgling space science ambitions.

Biography:

Prof Anthony J. Rodrigues is currently a professor of Computer Science & Director ICT at Jaramogi Oginga Odinga University of Science and Technology. He holds a PhD and his current research interest is in Scientific Computation, Approximation Theory, Modelling & Simulation, Informatics Policy, Waste Biomass to Briquettes Conversion. He has supervised several PhD and MSc students. He has served as an editor for several book publications namely: At the Crossroads: ICT Policy Making in East Africa 2005 IDRC ISBN 9966-25-439-0, ISBN 1-55250-219-8 (IDRC e-book): Managing Editor: International Journal of Computing & ICT Research 2006-2009 ICT for Sustainable Development Track. Joint Editor: Strengthening the Role of ICT in Development 2007 Vol III, ISBN 978-9970-02-730-9. : 2008 Vol IV .

Other engagements include: Consultancy; Twenty eight (28) for range of Institutions: World Bank (2), UNESCO, UNEP, Commonwealth Secretariat, ECA, IDRC, Gov. of Mauritius, Gov of Kenya, KRA, Public Univ. Inspections Board ; Research /Capacity Building Projects: World Bank, ODA , IDRC , UNESCO, NACOSTI, USAID funding totaling US\$5,500,000; Software Development/Project Management: Joint Admissions Board (JAB) System- Kenya, HELB system, Integrated MIS Univ of Mauritius; Professional Reports: Thirty two (32) Bidding Documents, Operational Requirements; Technical & Financial Evaluation ; Commissioning; etc

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Heritage Visualization based on Large-Scale Laser-Scanned Point Clouds



Prof. Satoshi Tanaka

College of Information Science and Engineering, Ritsumeikan University, Japan

Keynote Speaker topic:

Abstract

The recent rapid development of laser scanners has enabled the precise measurement of real cultural heritage objects. In such measurements, we acquire a large-scale point cloud that often consists of billions of 3D points. The characteristic feature of the laser-scanned point clouds acquired from cultural heritage objects is the complexity of the recorded 3D shapes as well as their large size. Therefore, we need precise and high-quality 3D transparent visualization to study the laser-scanned cultural heritage objects. To our knowledge, however, no previous study has reported the transparent visualization of a large-scale laser-scanned point cloud consisting of billions of 3D points at interactive speed and with the correct depth feel. To improve this situation, we propose a novel visualization method for precise and interactive-speed 3D transparent imaging of the large-scale and complex laser-scanned point clouds. Our method is based on a stochastic algorithm and directly uses the laser-scanned 3D points as rendering primitives. We demonstrate the effectiveness of our method by applying it to festival floats of high cultural value in the Gion Festival and other Japanese 3D cultural heritages. We also report our preliminary results of applying our method to Indonesian 3D cultural heritages.

Biography:

Prof. Satoshi Tanaka got his PhD in theoretical physics at Waseda University, Japan, in 1987. After experiencing assistant professor, senior lecturer, and associate professor at Waseda University and Fukui University, he became the professor of Ritsumeikan University, Japan, in 2002. His current research target is computer visualization of complex 3D shapes such as laser-scanned 3D cultural heritage objects, internal organs of the human body, and large-scale fluid simulation results. He is the best paper winners at Asia Simulation Conference 2012, Journal of Advanced Simulation in Science and Engineering in 2014, etc. He was the President of JSST (Japan Society for Simulation Technology) and also the President of ASIASIM (the Federation of Asia Simulation Societies). At

present, he is the vice-President of the Visualization Society of Japan and a member of Eurographics and ACM. He is also working as a cooperation member of Science Council of Japan.