About the Contributors

Mao Lin Huang is Associate Professor and Director of Visualization Lab, at the Faculty of Engineering & IT, University of Technology, Sydney, Australia. His current research interests include information visualization, visual analytics, graph drawing, visual user interface, web navigation, and software engineering; and he has published over 120 papers in these areas.

Weidong Huang is a researcher with CSIRO, Australia. His research interests include HCI, CSCW, Human Factors, and Visualization. He has published a number of papers in these areas.

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Olga Buchel has a Ph.D. in Library and Information Science from the Faculty of Information and Media Studies. Currently she works as a lecturer at Western University. Her research centers on map-based visualizations of document collections and the ways these visualizations can support higher-order cognitive activities such as decision making, sensemaking, visual analytics, knowledge discovery, and serendipitous discoveries. In the past she worked at the Alexandria Digital Library at the University of California which was the forerunner of Google Maps.

Luis Carli is a postgraduate researcher at the University of São Paulo, his research is about how programming helps in the graphic design process of information visualization. He was a visiting researcher in the Interface Culture department of the Kunstuniversität of Linz in 2011, he has presented works on the International Architecture Biennial of São Paulo in 2009, and on the International Festival of Electronic Language (FILE) in 2009, 2010, and 2011. In his current research study, he focuses on how programming helps develop and prototype graphic design structures for information visualization.

Marco Carnesecchi graduated in Human Computer Interaction in a joint programme between the University of Siena and Florence in May 2012. His thesis regarded the bridge between Information Visualization and studies on Thinking & Reasoning. During his Ph.D. he has been involved in several projects of Interaction Design supported by companies and public institutions regarding the design of user interfaces. He is currently Research Assistant at the University of Valle d’Aosta and he is part of the organizing committee of the Annual Conference of the Italian Cognitive Science association. His research interest concerns also assistive technologies, and studies related to play as a learning tool for children with disabilities.
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Barbara Di Eugenio is Associate Professor in the Department of Computer Science at the University of Illinois, Chicago campus. There she leads the NLP laboratory (http://nlp.cs.uic.edu/). She obtained her PhD in Computer Science in 1993, from the University of Pennsylvania. She is an NSF CAREER awardee and a past treasurer of the North American Chapter of the Association for Computational Linguistics. She is one of the founding and managing editors of the Journal of Discourse and Dialogue Research. She was program co-chair of INLG 2012, and she is program-co-chair of SigDIAL 2013. Her research has been supported by NSF, ONR, Motorola, Yahoo!, and the Qatar Research Foundation.

Pat Fitzpatrick is an associate research professor at the Geosystems Research Institute (GRI) at Mississippi State University (MSU). Research activities involve hurricane research; data assimilation; numerical modeling; weather forecasting; storm surge; and wetland research. Prior to GRI, he was an assistant professor of meteorology at Jackson State University. Fitzpatrick earned a B.S. in meteorology at Texas A&M University in 1988, followed by a M.S. in 1992 with a thesis on numerical modeling of hurricane genesis. His doctorate work was performed at Colorado State University from 1992-1995 under Dr. Bill Gray, with a dissertation on satellite applications to predicting hurricane intensity.

Celmar Guimarães da Silva completed his Doctoral degree in Computer Sciences in 2006, at the Institute of Computing, University of Campinas (Unicamp). He is a faculty member with the School of Technology, also at the University of Campinas, since 2008. He coordinates the Technologist Degree in System Analysis and Development course in this university since 2011. His research interest is related to the Information Visualization area. He is a member of the Brazilian Computer Society.

Cathal Gurrin is the SFI Stokes lecturer at the School of Computing at Dublin City University, Ireland and a visiting researcher at the University of Tromso, Norway. Cathal is the director of the Human Media Archives research group at Dublin City University and a collaborating investigator in the CLARITY Centre for Sensor Web Technologies. His research interests focus on Information Access to Personal Life Archives, Multimodal Human Computer Interaction, and Information Retrieval in general. He has been an active lifelogger since mid-2006 and has amassed a large archive of over ten million Sensecam images and is actively developing search and organization technologies for Personal Life Archives. He is the author of more than 100 academic publications and is an experienced researcher in the field of Lifelogging.

Helena Haapio (LL.M, MQ) is a doctoral researcher at the University of Vaasa, Department of Business Law and Economics, where she teaches strategic business law. She works as contract coach with Lexpert Ltd, Helsinki, Finland, helping companies use contracts proactively to achieve better business results and prevent problems. Before founding Lexpert she served several years as in-house legal counsel. She also works as arbitrator. Helena is a long-time pioneer of research and education crossing the boundaries of traditional law. Her recent publications include A Short Guide to Contract Risk (Gower, 2013) and Proactive Law for Managers: A Hidden Source of Competitive Advantage (Gower 2011), co-authored with Professor George J. Siedel. For Helena, contracts are too important to be left to the lawyers alone. Through visualization, she seeks to revolutionize the way contracts are designed, communicated, and perceived.
T. J. Jankun-Kelly is an Associate Professor of computer science and engineering within the James Worth Bagley College of Engineering, Mississippi State University. His research lies at the intersection of scientific and information visualization. Specifically, he seeks to better understand the foundations of these disciplines to increase their effectiveness. He also applies visualization to problems in bioinformatics, computer security, social networks, and other domains. Jankun-Kelly received his Ph.D. from the University of California, Davis, in 2003 and is a member of IEEE and the ACM.

Heekyoung Jung is an Assistant Professor in the School of Design at University of Cincinnati. She holds her PhD in Informatics from Indiana University with her BS and MS degrees in Industrial Design from Korean Advanced Institute of Science and Technology (KAIST). She specializes in Human-Computer Interaction (HCI) that involves both user research and design of interactive information applications. She has worked on many research and consulting projects on information organization, representation, and navigation with focus on usability and aesthetics of user interface. Currently she teaches interaction design studio courses with focus on scenario-based design, rapid prototyping, and interface design for various screen-based digital media (i.e., laptop, tablet, mobile devices). Her recent research area is data visualization that supports exploratory navigation of a large amount of data in simple and engaging visual forms.

Tanyoung Kim is a Ph.D. Candidate in Digital Media Program at School of Literature, Media, and Communication, at Georgia Institute of Technology. Her research interest in the domain of digital media studies is the aesthetics and social/political impacts of information visualization. She approaches this interest with the methods from design research, for which her explores modern graphic design history and principles, rhetoric, and new media theories. She is also an active practitioner who makes interactive visualizations with various data. She has worked at Nokia Research Center and NHN corporation where she lead and participated in various projects spanning data visualization, user research, interaction design, information architect for web, application and online games. She holds BS and MS in Industrial Design from KAIST, Korea.

Nikos Koutsopoulos holds an MSc from the Department of Computer Science, University of Crete (2011), and is currently a PhD student. His research interests fall in the domain of programmer-centric interactive visualization and process improvement tools.

Andrew Johnson received his Ph.D. in Computer Science from Wayne State University, Detroit, MI, in 1994. He joined the Electronic Visualization Laboratory at the University of Illinois at Chicago in 1995, and joined the Department of Computer Science in 1997 where he is currently an Associate Professor. His research and teaching focus on interaction and collaboration using advanced visualization displays and the application of those displays to enhance discovery and learning. His work focused on projection-based virtual reality displays in the 1990s, and large tiled high-resolution flat panel displays in the 2000s. His current work focuses on the combination of these modalities in hybrid high-resolution virtual reality environments such as cave 2.
About the Contributors

Wei Lai received his PhD from the University of Newcastle Australia. He is now a senior lecturer in Faculty of Information and Communication Technologies, Swinburne University of Technology, Australia. His research interests are information visualization, diagram layout, image processing, and pattern recognition.

Jason Leigh is a Professor of Computer Science and Director of the Electronic Visualization Laboratory and the Software Technologies Research Center at the University of Illinois at Chicago. Currently he is also a Fellow of the Institute for Health Research and Policy. Prior projects and research for which he is best known include, the OptIPuter, GeoWall, CoreWall, LambdaVision, Tele-Immersion, and Reliable Blast UDP. His research for the past ten years focused on Cyber-Commons-ultra-resolution display-rich collaboration environments amplified by high performance computing and networking. His newest area of research is called Human Augmentics-technologies for expanding the capabilities and characteristics of humans. His work in lifelike avatars has been featured on the Popular Science’s Future Of, and he has been profiled on Nova ScienceNow. Leigh also teaches classes in Software Design and Video Game Design.

David Lewis gained his B.Sc. in Electronic Engineering from the University of Southampton in 1987, before working as a electronic design engineer for two years and then undertaking a M.Sc. in Computer Science at University College London (UCL). He worked as a research fellow at UCL between 1990 and 2002, investigating integrated, multi-domain network and service management. In this period he also completed a Ph.D. and worked part time for a network management technology start up. In 2002 he moved to the Knowledge and Data Engineering Group (KDEG) in TCD working in management of pervasive computing systems, knowledge-based networking and autonomic communication systems. He is currently involved in the Centre for Next Generation Localisation (CNGL) researching service integration and service management in integration of language technologies, web content and localisation workflows, with a focus on the role of community management. He is currently co-chair of the MultiLingualWeb-Language Technology Working Group at the W3C.

Jie Liang is a PhD candidate of software engineering at the University of Technology Sydney, Australia. She was awarded a university medal with first class honors. Her research focuses on financial data visualization, hierarchical information visualization and evaluation of visual analytics.

Alessandro Marcengo has a bachelor’s degree in Psychology (with a major in Human Factors from the University of Torino, Italy, 1998). In 2001 he received his Master’s Degree in Cognitive Ergonomics from COREP/Turin Polytechnic. Since 1999 he has worked on human factors and cognitive ergonomics area. Over the years he developed an extensive background on user experience designing and testing advanced user interfaces for mobile services and devices, Internet services and applications, Internet appliances, voice interaction services, etc. Lately he has been conducting in-depth studies on the usage of complex contents on different platforms and devices and the related communication pattern. He teaches several postgraduate courses on human factors and cognitive ergonomics. He has been involved with different roles in several EU projects. At present he’s deepening perceptive, cognitive, and affective aspects in data visualization and quantified self.
Bob-Antoine Jerry Menelas is an assistant professor of Computer Science, at University of Quebec at Chicoutimi, Canada. He holds a M. Sc. (2006) from University of Angers, France and a Ph.D. (2010) from University of Paris Sud XI, France in computer science. Before joining University of Quebec at Chicoutimi in 2011, Menelas was a postdoctoral fellow at University of Calgary, Canada. His research interests include Virtual Reality, Haptics, visualization and serious games.

John McAuley is a PhD Student in the Centre for Next Generation Localisation at Trinity College Dublin. Before joining Trinity College, he received his master’s degree from Dublin Institute Technology. He is currently completing his PhD thesis on the strategic management of peer-production communities. Although his main research area is on the development and maintenance of online communities, he maintains a keen interest on the effective design of visual analytic applications that can be used by non-expert users in domain specific areas. This incorporates an understanding of the principles of design and interaction coupled with an understanding of the principles of effective information visualisation.

Alexander O’Connor is a Post-doctoral Researcher in Digital Content Management for the Centre for Next Generation Localisation at Trinity College, Dublin. Alex’s main areas of research are in the future of the Semantic Web, Personalisation and Global Intelligent Content. Alex holds a PhD in Computer Science, which focused on creating richer, more effective links between structured knowledge representations. He has co-authored approximately 20 papers, and has participated in the proposal and operation of several EU and Irish-government-funded projects. In addition to his research work, Alex is a co-founder of Emizar, a CNGL spin-out company which creates high-quality tailored, personalised customer support solutions that draw from enterprise, social and community support content.

Stefania Passera (MA) is a doctoral researcher at Aalto University School of Science, Department of Industrial Engineering and Management, where she is part of the multidisciplinary MIND Research Group. She has a background in graphic design, with a strong interest in information design, layout and typography. The leitmotiv of her work is to explore how design and designers can contribute to new multidisciplinary endeavors and what value their way of thinking and doing bring to the mix. Her current challenge and research topic is how to introduce visualization to a very word-dominated domain: contracts. The idea is to make contracts clearer, easier and user-friendlier through visualization that can help the readers make sense of complex information. Stefania has been working with private and public organizations in Finland on the development of user-centered visual contract documents, combining research and practice.

Amon Rapp earned a degree in Communication Sciences from the University of Torino, Italy. Since 2006 he’s been working in the Research and Trends department in Telecom Italia as a User Experience Researcher. In 2007 and 2009 he won a research scholarship “Progetto Lagrange” in HCI Complex Systems sponsored by Telecom Italia, the Department of Computer Science at University of Torino and Fondazione C.R.T. At present he works as a User Experience Researcher in the Interdepartmental Research Center on Multimedia and Audiovisual of the University of Torino. He’s also attending a PhD Program in Sciences of Language and Communication at the Computer Science Department at University of Torino. His main research areas are about the use of game design elements in Interactive Systems, User Experience Research Methodologies and Systems of Data Visualization.
**About the Contributors**

**Maria Riveiro** is a Senior Lecturer of Computer Science at the Informatics Research Centre at University of Skövde, Sweden. Riveiro holds a M.Sc. in Telecommunication Engineering and a PhD in Computer Science from Örebro University, Sweden. Since 2005, she has been a member of the Skövde Artificial Intelligence Lab and the Information Fusion Research Program at the University of Skövde. Her research has spanned a range of topics including data mining, artificial intelligence, information visualization, visual analytics, information fusion and uncertainty management. Riveiro’s current work focuses on finding optimal combinations of data mining and interactive visualization for the analysis of large data sets with uncertainty associated.

**Antonio Rizzo** is Full Professor of Cognitive Science and Technology at the University of Siena (2001-present). He was Director of the Academy of Digital Arts and Science–ArsNova in Siena (2004-2010) and chair of the European Association of Cognitive Ergonomics (2000-2006). From 1996 to 1999 he led the Human Factors Division of the Italian Railways constituted for introducing Human Factor Engineering principles in work processes. Research activities concern both theoretical and pragmatical aspects of artefacts in human psychological life.

**J. Alfredo Sanchez** is a professor at Universidad de las Americas Puebla (UDLAP), where he leads the Laboratory of Interactive and Cooperative Technologies (ICT, http://ict.udlap.mx). He earned MSc and PhD degrees in computer science at Texas A & M University, and a BEng degree in Computer Systems at UDLAP. His research and teaching interests lie in the areas of Human-Computer Interaction (HCI), Digital Libraries (DLs) and Knowledge Technologies. He has been visiting professor at the University of Waikato (New Zealand), and visiting scholar at the Center for Bioinformatics of the Missouri Botanical Garden. He has coordinated the Mexican Internet 2 communities on DLs and HCI and has been President of the Mexican Computer Science Society. He is a co-founder of the Mexican Association of Human-Computer Interaction (AMexIHC) and coordinator of the Human-Computer Interaction Research Line of the Thematic Network of Information and Communication Technologies (RedTIC) of CONACYT.

**Anthony Savidis** holds a Phd in Electronic Engineering from the University of Kent, UK (1999) is an Associate Professor (since 2007) of the Department of Computer Science, University of Crete and is an affiliated researcher at the Institute of Computer Science, FORTH (since 1999). His research interests are in the broader area of Programming Languages, Software Engineering and Applications: 1.) integrated design and implementation of novel programming languages: language, compiler, virtual machine, standard libraries, tools, debugger, integrated development environment; and 2.) software engineering methods, tools and applications: adaptive, automatically generated and distributed interactive systems; design tools and environments; defensive programming and fault tolerance.

**Kamran Sedig** is an Associate Professor in the Department of Computer Science and the Faculty of Information and Media Studies at Western University, Canada. He holds a Ph.D. in Computer Science from the University of British Columbia. He has been doing research in the area of human-centered interactive visualizations since 1993. He is interested in the design of computer-based computational tools that help people perform information-intensive complex cognitive activities, such as sense making, decision making, data analysis, and learning. As such, his research and publications span a range of topics such as information visualization, visual analytics, human-information interaction design, information
interface design, health informatics, digital cognitive games, and cognitive and learning technologies. In the past few years, he has been working on the development of comprehensive frameworks that make the design and evaluation of visualizations and interactions more scientific.

Chad A. Steed is a Visual Analytics Researcher in the Computational Data Analytics Group at the Oak Ridge National Laboratory (ORNL). He holds a Ph.D. (2008) degree in computer science from Mississippi State University, where he studied visualization and computer graphics. Steed’s research has spanned a range of topics including visual analytics, scientific and information visualization, data mining, intelligent user interfaces, database design, geoscientific data processing, and web application development. His current focus is on the formulation and practical application of unique visual analytics techniques that combine inferential, automated analytics with interactive visualizations to enhance cognition and decision support for extreme scale data set analysis.

Yiwen Sun received her Ph.D. in computer science from the University of Illinois at Chicago in 2012, where she conducted research on interactive visualization and visual analytics. More specifically, her Ph.D. focused on developing a methodology for automatically translating natural language into visualizations. She currently works at Microsoft Corporation.

J. Edward Swan II is a Professor of Computer Science and Engineering and an Adjunct Professor of Psychology, at Mississippi State University. He holds a B.S. (1988) degree in computer science from Auburn University and M.S. (1992) and Ph.D. (1997) degrees in computer science from Ohio State University, where he studied computer graphics and human-computer interaction. Before joining Mississippi State University in 2004, Swan spent seven years as a scientist at the Naval Research Laboratory in Washington, D.C. Currently, Swan is studying perception in augmented and virtual reality, including depth and layout perception and depth presentation methods, as well as empirical techniques for evaluating and validating visualizations. His research has been funded by the National Science Foundation, the National Aeronautics and Space Administration, the Naval Research Laboratory, and the Office of Naval Research. Swan is a member of ACM, IEEE, the IEEE Computer Society, and ASEE.

Masahiro Takatsuka is an Associate Professor at the School of Information Technologies, the University of Sydney, where he chairs the Research Committee and heads the ViSLAB (Visualization Research Group). His current research interests include the use of manifold surfaces to multidimensional scaling and Information Visualization, Advanced Collaboration Technologies, in particular, the use of Service Oriented Remote Collaboration, and Network Centric Computer Graphics. Takatsuka obtained his Ph.D. in Electrical and Computer Engineering from the Monash University. He is a Member of the IEEE and ACM.

Keqin Wu is a postdoctoral associate in the Department of Computer Science and Electrical Engineering, University of Maryland Baltimore County. She received the B.E. and M.E. degrees in computer engineering from the Ocean University of China in 2001 and 2004, and the Ph.D. degree in computer engineering from Mississippi State University in 2012. Her research interest includes scientific visualization, medical imaging, and user interface. She is a member of IEEE.
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**Yang Yang** is a postgraduate researcher at Human Media Archives research group, Dublin City University. She worked on a wide range of projects including multimedia information retrieval, digital libraries, natural language processing, web search engine, adaptive computer interfaces, etc., and creates novel application scenarios and interaction concepts. Her current main area of interest is on information visualization for large-scale collection of personal lifelogging archives using human centered design approach. In her research study, she aims to create effective visualization and interaction strategy that allows users’ browsing and searching on large amount of lifelogs for self-knowledge discovery through various emerging wearable sensor technologies.

**Moonyati Yatid** received a degree in Design and Information Sciences Engineering from Wakayama University, Japan in 2009. In the same year she began her Ph.D. studies majoring in Human-Computer Interactions in University of Sydney, Australia. Her research focuses on the areas of human factors and cognitive ergonomics related to collaboration technologies. This includes the design and evaluations of hardware and software tools to support better user experience (UX).

**Liese Zahabi** is an Assistant Professor of Visual Communication at Weber State University in Ogden, Utah. She received her Master of Graphic Design from North Carolina State University in 2010, and has worked as a graphic and interactive designer for over ten years. Her research interests focus on HCI and cognition, information-triage and online search, and metaphor.

**Song Zhang** is an Associate Professor of Computer Science and Engineering at Mississippi State University. He received the B.S. degree in computer science from Nankai University, China, in 1996, and the Ph.D. degree in computer science from Brown University in 2006. His research interests include scientific visualization, medical imaging, and computer graphics. He is a member of IEEE.

**Angela M. Zoss** joined Duke University in 2012 as Data Visualization Coordinator. She is a doctoral candidate at the Indiana University School of Library and Information Science, where she also worked as an Adjunct Instructor and a Research Assistant in the Cyberinfrastructure for Network Science Center, directed by Dr. Katy Börner. She holds a B.A. in Cognitive Science and Communication & Culture from Indiana University and a M.S. in Communication from Cornell University. Her research focuses on scientometric descriptions and evaluations of scholarly communication and the use of knowledge domain visualizations for navigation and information-seeking tasks. Additional research interests include visual literacy and differences in interpretation strategies across academic disciplines.