Preface

As technologies in storage media continue to advance, the data we need to deal with is becoming increasingly complex and large. Accordingly, making sense of this vast amount of data becomes a challenging issue. Researchers and engineers from a range of application domains and backgrounds are striving to find solutions to meet this challenge. Thanks to recent rapid developments in visualization research and engineering, visual analytics has become a hot topic as well as an active research area that requires an interdisciplinary approach. Visual analytics makes use of powerful human visual system together with other methods and technologies to untangle the complexity of massive data.

The book of Innovative Approaches of Data Visualization and Visual Analytics is aimed to present latest developments and trends in data visualization and visual analytics. This book is a timely collection of latest research findings. The chapters of this book are rigorously reviewed and carefully selected to reflect the current state-of-the-art of research in this emerging field. This comprehensive collection will be beneficial to all researchers and professionals working in this promising field. Advanced-level students in science and engineering will also find this book useful as a secondary text or reference.

This book includes 18 chapters that are written by internationally known experts and active researchers. The authors are from a range of disciplines, such as psychology, business, machine learning, human computer interaction, and visualization. These contributions again demonstrate that research in data visualization and visual analytics goes beyond the field of visualization and should benefit from cross-disciplinary cooperation among researchers who have interest in this emerging and increasingly important area. In this book, chapters are grouped into two categories: Foundation and Application, with nine chapters in foundation and nine chapters in application.

Finally we would like to thank all authors who submitted their works for consideration. We also thank our reviewers who worked hard to give their quality feedback within a tight time frame. Last but not least, a big thank-you goes to IGI Global editor Christine Smith for her professional assistance throughout the project.

Weidong Huang  
CSIRO ICT Centre, Sydney, Australia

Mao Lin Huang  
University of Technology, Sydney, Australia

June 11, 2013