Preface

Message from the Symposium and Paper Chairs

IEEE VAST 2006 is the first international symposium dedicated to the advances in visual analytics science and technology. Visual analytics is the science of analytical reasoning supported by interactive visual interfaces. People use visual analytics tools and techniques to

- synthesize information
- derive insight from massive, dynamic, and often conflicting data
- detect the expected and discover the unexpected
- provide timely, defensible, and understandable assessments
- communicate assessments effectively.

The issues stimulating this body of research provide a grand challenge in science: turning information overload into the opportunity of the decade.

Visual analytics attracts more and more interest from a large community of researchers because it requires interdisciplinary science beyond traditional scientific and information visualization. The field embraces statistics, mathematics, knowledge representation, management and discovery technologies, cognitive and perceptual sciences, decision sciences, and more. Research in the field is challenging because new applications regularly pose new requirements while the amount and complexity of information to be analyzed steadily increase.

As a result of the growing interest in the field of visual analytics, the symposium received sixty paper submissions. After thorough evaluation, twenty-six papers were selected for inclusion in this proceedings and presentation at the symposium. In addition to these paper presentations, the symposium program includes a focusing keynote address, a panel on the educational needs of visual analytics researchers, a contest, and a doctoral colloquium.

Papers—The selected papers cover a wide range of visual analytics techniques, systems, and applications, including

- Information Analytics
- Scientific Analytics
- Interaction
- Cognitive and Perceptual Science
- Knowledge Discovery
- Data Management and Knowledge Representation
- Statistical Analytics Graphics
- Geospatial Analytics
- Presentation, Production, and Dissemination.

The high quality of the submissions made selection difficult, and many high-quality papers could not be included in the symposium. The large number and high quality of the submissions show the importance of this new field. Extended versions of seven selected papers will be presented in an upcoming issue of the Information Visualization journal in 2007.


Panel—“Visual Analytics Education.” The panel organizer, Jim Foley, and participants, Stuart Card, David Ebert, Alan MacEachren, and Bill Ribarsky, will focus on visual analytics education and discuss how visual analytics system developers and researchers are best educated at the MS and Ph.D. levels.

Contest—The purpose of the VAST Contest is to promote the development of benchmarks for visual analytics and to establish a forum for advancing evaluation methods. The contest dataset consists mostly of news stories, along with some multimedia materials and background information. The goals are to determine whether the news stories indicate inappropriate activities and to report on hypotheses and conclusions. Participants had several months to prepare their results and submit them for pre-symposium evaluation. Selected entrants were then invited to compete their solutions at the symposium with a more challenging dataset.

Doctoral Colloquium—The purpose of the VAST Doctoral Colloquium is to support the next generation of visual analytics researchers. Ph.D. students at any stage of their research were invited to apply to participate in the colloquium as presenters. The colloquium enables students to discuss their research directions in a supportive atmosphere with a panel of distinguished leaders in visual analytics. Students get feedback and fresh perspectives on their research topics and possible career paths, and have the opportunity to interact closely with expert researchers in their field.

We thank all contributors for their hard work in conducting the research and writing the papers. We also thank our area chairs and external reviewers for their helpful and informative comments, which have added immeasurably to the quality of the proceedings. We also thank Torsten Möller and his students at Simon Fraser University for their hard work on preparing the proceedings. Finally, we gratefully acknowledge the support of the IEEE Visualization and Graphics Technical Committee (VGTC) for their full sponsorship of the symposium.

Pak Chung Wong and Daniel Keim
IEEE VAST 2006 Symposium and Paper Chairs