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Keynote Speech I
Day 1 9:00-10:00

Visual Analytics for Enabling Extreme Scale Scientific Discovery

Speaker:

- Han-Wei Shen, The Ohio State University

Abstract:
The growing power of supercomputers has substantially enhanced our capability to simulate complex problems at greater fidelity, leading to high-impact scientific and engineering breakthroughs. Over the years, visualization has become instrumental for analyzing data generated from numerical simulations in many science disciplines. To fully understand such vast amounts of data, scientists need scalable solutions that can perform detailed data analysis at different levels of detail. In this talk, I will discuss several techniques that address two difficulties faced by computational scientists: The first is deciding what data are the most essential for analysis, given that only a small fraction can be retained; the second is transforming the data into visual representations that rapidly convey the most insight to the viewer. The techniques utilize information theory, fractal analysis, and time series data analysis to facilitate effective data summarization and analysis.

Bio:
Han-Wei Shen is an Associate Professor at The Ohio State University. He received his BS degree from Department of Computer Science and Information Engineering at National Taiwan University in 1988, the MS degree in computer science from the State University of New York at Stony Brook in 1992, and the PhD degree in computer science from the University of Utah in 1998. From 1996 to 1999, he was a research scientist at NASA Ames Research Center in Mountain View California. His primary research interests are scientific visualization and computer graphics. Professor Shen is a winner of National Science Foundation's CAREER award and US Department of Energy's Early Career Principal Investigator Award. He also won the Outstanding Teaching award twice in the Department of Computer Science and Engineering at the Ohio State University.

Keynote Speech II
Day 1 14:00-15:00

Bridging Computing and Visual Art

Speaker:

- Kang Zhang, The University of Texas at Dallas

Abstract:
In this talk, we will introduce the recently emerging interdisciplinary research topics of computational aesthetics and aesthetic computing, and discuss their difference and complementary roles. As a case study, the theories and practices of abstract painting and their existing and potential applications in computing in general and information visualization in particular will be presented in the context of aesthetic computing. We discuss the three dimensions of painting, i.e. form, color, and texture, various visual cognition principles, and finally aesthetic compositions used in abstract painting. Our objective is to bridge visual art with information visualization, so that the latter could learn from the former in creating more aesthetic visualizations and thus making the viewers visualizing process a pleasant experience. In the context of computational aesthetics, we provide a classification scheme on the complexity of intelligence used in computerized paintings. We will mention our recent effort in producing a particular style of abstract painting. Other research project in information visualization at the UTD Visual Computing Lab will also be briefly mentioned.

Bio:
Kang Zhang is Professor and Director of Visual Computing Lab, Department of Computer Science at the University of Texas at Dallas. He is also an Adjunct Professor of the UT-Dallas Computer Engineering Program and GIS Program. He received his B.Eng. in Computer Engineering from University of Electronic Science and Technology of China in 1982, and Ph.D. from the University of Brighton, UK, in 1990. Prior to joining UT-Dallas, he held academic positions in the UK, Australia, and China. Dr. Zhang's current research interests include information visualization, visual languages, aesthetic computing, and software engineering; and has published over 180 papers in these areas. He has authored and edited five books. Dr Zhang is on the Editorial Boards of Journal of Visual Languages and Computing, International Journal of Software Engineering and Knowledge Engineering, and International Journal of Advanced Intelligence. His home page is at www.utdallas.edu/~kzhang.
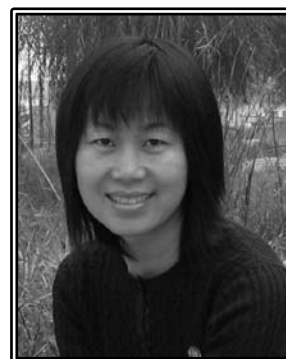
Keynote Speech III
Day 2 9:00-10:00

Interactive Visual Text Analytics for Decision Making

Speaker:

- Shixia Liu, Microsoft Research Asia

Abstract:
Businesses use text documents to communicate with their shareholders, share knowledge within the enterprise, coordinate activities among employees, and track business processes. As a result, analyzing text documents has become increasingly an important part of decision making in large corporations and small businesses. For this reason, it is attracting the attention of the visual analytics research community and will continue to do so in the future. Despite its promising start, this research topic is still in its infancy and much remains to be explored and done. This talk presents the challenges of visual text analytics and exemplifies them with several text visualization techniques and examples. It aims at investigating how to best combine and leverage state-of-the-art technologies from multiple fields to help people analyze large collections of text and make decisions.

Bio:
Dr. Shixia Liu is a lead researcher in the Internet Graphics Group at Microsoft Research Asia. Before she joined MSRA, She worked as a research staff member and research manager at IBM China Research Lab, where she managed the departments of Smart Visual Analytics and User Experience. Her research interests include interactive, visual text analytics and interactive, visual social network analysis. She is program co-chair of VINCI'2012. She was in the program committee of PacificVis, ACM Multimedia, SDM, and IUI, VINCI, IVAPP, and the guest editor of ACM Transactions on Intelligent Systems and Technology.

Paper Session 1
Day 1 10:40-12:00

Visual Analysis I
Chair: Masahito Hirakawa, Shimane University

Designing Knowledge-assisted Visual Analytics Systems for Organizational Environments

- Xiaoyu Wang, University of North Carolina at Charlotte
- Thomas Butkiewicz, University of New Hampshire
- Wenwen Dou, University of North Carolina at Charlotte
- Eric Bier, Palo Alto Research Center, Inc.
- William Ribarsky, University of North Carolina at Charlotte

Visualization of Large Category Hierarchies

- Robert P. Biuk-Aghai, University of Macau
- Cheong-Iao Pang, University of Macau

A Visual Analysis Tool That Smoothly Switches Between Tabular Forms and Parallel Coordinates

- Kazuo Misue, University of Tsukuba
- Takashi Yuki, University of Tsukuba

A Hyperbolic Tree based Interface for Exploring Massive Files

- Zhirong Zeng, Institute of Software, Chinese Academy of Sciences
- Kun Wang, Beijing Jiaotong University
- Dongxing Teng, Institute of Software, Chinese Academy of Sciences
- Hongan Wang, Institute of Software, Chinese Academy of Sciences
- Guozhong Dai, Institute of Software, Chinese Academy of Sciences

Day 1 15:30-16:50

Applications

Chair: Philip Cox, Dalhousie University

MusiCube: A Visual Interface for Music Selection featuring Interactive Evolutionary Computing

- Yuri Saito, Ochanomizu University
- Takayuki Itoh, Ochanomizu University

Support of Self-Management for Chronic Kidney Failure Patients

- Yasuhiko Sota, Shimane University
- Keisuke Yamamoto, Shimane University
- Masahito Hirakawa, Shimane University
- Souichiro Doi, Yamamoto Clinic
- Yasuhisa Yamamoto, Yamamoto Clinic

Geo-tagged Mobile Photo Sharing in Collaborative Emergency Management

- Anna Wu, The Pennsylvania State University
- Xin Yan, The Pennsylvania State University
- Xiaolong (Luke) Zhang, The Pennsylvania State University

Empirical Studies of Pen Tilting Performance in Pen-based User Interfaces

- Feng Tian, Institute of Software, Chinese Academy of Sciences

Paper Session 3
Day 1 10:40-12:00

Software Visualization and Visualization of Multi-dimensional Data
Chair: Takayuki Itoh, Ochanomizu University

Controlled Dataflow Visual Programming Languages

- Philip Cox, Dalhousie University
- Simon Gauvin, Dalhousie University

Visualizing Inference Process of a Rule Engine

- Jian Shi, Institute of Software, Chinese Academy of Sciences
- Ying Qiao, Institute of Software, Chinese Academy of Sciences
- Hongan Wang, Institute of Software, Chinese Academy of Sciences

Coaxial Interactive Viewer: A Multi-Dimensional Data Visualization with Spatial Distortional Views

- Jiawan Zhang, Tianjin University
- Yi Zhang, Tianjin University
- Qinghui Guo, Tianjin University
- Lei Fu, Tianjin University
- Maolin Huang, University of Technology, Sydney

Infoshape: High-Level Views of Multidimensional Information

- Jie Hao, University of Texas at Dallas
- Kang Zhang, University of Texas at Dallas

Paper Session 4
Day 1 14:00-15:20

Visual Analysis II
Chair: Xiaoru Yuan, Peking University

Visual Analysis of People's Mobility Pattern from Mobile Phone Data

- Jiansu Pu, Hong Kong University of Science and Technology
- Panpan Xu, Hong Kong University of Science and Technology
- Huamin Qu, Hong Kong University of Science and Technology
- Weiwei Cui, Hong Kong University of Science and Technology
- Siyuan Liu, Hong Kong University of Science and Technology
- Lionel Ni, Hong Kong University of Science and Technology

A Graph-based Fuzzy Linguistic Metadata Schema for Describing Spatial Relationships

- Yu Su, Southern Methodist University
- Margaret Dunham, Southern Methodist University

SFViz: Interest-based Friends Exploration and Recommendation in Social Networks

- Liang Gou, The Pennsylvania State University
- Fang You, Sun Yat-Sen University
- Jun Guo, Sun Yat-Sen University
- Luqi Wu, Sun Yat-Sen University
- Xiaolong (Luke) Zhang, The Pennsylvania State University

Visual Signatures for Financial Time Series

- Su Te Lei, University of Texas at Dallas
- Kang Zhang, University of Texas at Dallas

Poster Session
Day 1 17:00-18:00

Chair: Xiaolong (Luke) Zhang

Evaluation of the User Interface Design on Vegetation Interaction Game for Children

- Fusako Kusunoki, Tama Art University
- Yoshiaki Takeda, Kobe University
- Midori Tanaka, Kobe University
- Etsuji Yamaguchi, Kobe University
- Akiko Deguchi, Utsunomiya University
- Shinichi Kamiyama, Kobe University
- Shigenori Inagaki, Kobe University
- Masanori Sugimoto, University of Tokyo

ImageHive: Interactive Content-Aware Image Summarization

- Li Tan, Microsoft Research Asia
- Yangqiu Song, Microsoft Research Asia
- Shixia Liu, Microsoft Research Asia
- Lexing Xie, Microsoft Research Asia

Visual Analysis of Taxi Drivers' Mobility Intelligence

- Yuan Gao, Hong Kong University of Science and Technology
- Lu Lu, Hong Kong University of Science and Technology
- Panpan Xu, Hong Kong University of Science and Technology
- Huamin Qu, Hong Kong University of Science and Technology

Scalable Parallel Multivaritate Data Volume Visualization

- Hanqi Guo, Peking University
- He Xiao, Peking University
- Min Lu, Peking University
- Xiaoru Yuan, Peking University

Visual Analytics on Multivariate Climate Simulation Data

- Hanqi Guo, Peking University
- He Xiao, Peking University
- Xiaoru Yuan, Peking University

ChronAtlas: A Visualization for Dynamic Topic Exploration

- Nan Cao, Hong Kong University of Science and Technology
- Yu-Ru Lin, Harvard University
- Jimeng Sun, IBM Watson
- David Gotz, IBM Watson
- Huamin Qu, Hong Kong University of Science and Techno

Lunch & Banquet

Lunch
Day 1 12:00 - 14:00
Day 2 12:00 - 14:00

The conference will provide lunch at G/F restaurant on campus at 12:15pm

Banquet
Day 1 18:00 - 21:00

Chuen Kee Seafood Restaurant
87-89 Man Nin Street, Sai Kung

西贡全记海鲜
西贡萬年街 87-89 號地下

A coach will pick up at HKUST at 18:00.
A coach will pick up at Sai Kung at 21:00 and make a stop at HKUST and a stop at Choi Hung MTR station

Conference Venue

The sysmposium will be held at lecture theatre LTF on Aug. 4th and LTK on Aug. 5th, Academic Building, Hong Kong University of Science and Technology (HKUST)