



VAST 2017 Papers

Submission # 228

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Abstract

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Paper Type

Please indicate what type of paper you are submitting. For a detailed description of the different paper types, please consult the [submission guidelines](#). If your paper has characteristics of multiple types, please select a main one.

- ☐ Algorithm/Technique
- ☐ System
- ☐ Application/Design Study
- ☐ Evaluation
- ☐ Theory/Model
- ☒ Empirical Study

Keywords

To describe your submission, select one primary keyword (with a radio button) and one to four secondary keywords (with the checkboxes). Keywords must be submitted by March 21.

Theory of Visual Data Analysis

- | | |
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| <input type="checkbox"/> Design Methodologies | <input type="checkbox"/> Visual Analysis Models |
| <input type="checkbox"/> Taxonomies | <input type="checkbox"/> Visualization Models |

Visual Analysis and Knowledge Discovery

- | | |
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| <input type="checkbox"/> Hypothesis Forming | <input type="checkbox"/> Visual Knowledge Discovery |
| <input type="checkbox"/> Hypothesis Testing, Visual Evidence | <input type="checkbox"/> Visual Knowledge Representation |
| <input type="checkbox"/> Knowledge Externalization | |

Data Handling, Processing, and Analysis

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| <input checked="" type="checkbox"/> Data Filtering | <input type="checkbox"/> Feature Detection and Tracking |
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Non-Spatial Data and Techniques

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| <input type="checkbox"/> Dimensionality Reduction | <input type="checkbox"/> Pixel-oriented Techniques |
| <input type="checkbox"/> Graph/Network Data | <input type="checkbox"/> Statistical Graphics |
| <input type="checkbox"/> Hierarchy Data | <input type="checkbox"/> Tabular Data |
| <input type="checkbox"/> High-Dimensional Data | <input type="checkbox"/> Text and Document Data |
| <input type="checkbox"/> Parallel Coordinates | <input type="checkbox"/> Time Series Data |

Interaction Techniques

- | | |
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| <input checked="" type="checkbox"/> Coordinated and Multiple Views | <input type="checkbox"/> Interaction Design |
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| <input type="checkbox"/> Focus + Context Techniques | <input type="checkbox"/> User Interfaces |
| <input type="checkbox"/> Human Factors | <input checked="" type="checkbox"/> Zooming and Navigation Techniques |
| <input type="checkbox"/> Human-Computer Interaction | |

Display and Interaction Technology

- ☐ ☐ Haptics for Visualization
- ☐ ☐ Immersive and Virtual Environments
- ☐ ☐ Large and High-res Displays

- ☐ ☐ Multimodal Input Devices
- ☐ ☐ Stereo Displays

Evaluation

- ☐ ☐ Field Studies
- ☐ ☐ Laboratory Studies
- ☐ ☐ Metrics and Benchmarks
- ☐ ☐ Qualitative Evaluation

- ☐ ☐ Quantitative Evaluation
- ☐ ☐ Task and Requirements Analysis
- ☐ ☐ Usability Studies

Perception & Cognition

- ☐ ☐ Attention and Blindness
- ☐ ☐ Cognition Theory
- ☐ ☐ Cognitive and Perceptual Skill
- ☐ ☐ Color Perception
- ☐ ☐ Distributed Cognition
- ☐ ☐ Embodied / Enactive Cognition

- ☐ ☐ Motion Perception
- ☐ ☐ Perception Theory
- ☐ ☐ Perceptual Cognition
- ☐ ☐ Scene Perception
- ☐ ☐ Texture Perception

Hardware Acceleration

- ☐ ☐ CPU and GPU clusters
- ☐ ☐ Distributed Systems and Grid Environments

- ☐ ☐ GPUs and Multi-core Architectures
- ☐ ☐ Parallel Systems

Large Data Vis

- ☐ ☐ Compression Techniques
- ☐ ☐ Multidimensional Data
- ☐ ☐ Multiresolution Techniques

- ☐ ☐ Streaming Data
- ☐ ☐ Time-varying Data

General Topics and Techniques

- ☐ ☐ Aesthetics in Visualization
- ☐ ☐ Animation
- ☐ ☐ Collaborative and Distributed Visualization
- ☐ ☐ Design Studies
- ☐ ☐ Glyph-based Techniques
- ☐ ☐ Illustrative Visualization
- ☐ ☐ Integrating Spatial and Non-Spatial Data Visualization
- ☐ ☐ Mathematical Foundations for Visualization

- ☐ ☐ Mobile and Ubiquitous Visualization
- ☐ ☐ Presentation, Production, and Dissemination
- ☐ ☐ Scalability Issues
- ☐ ☐ Sonification
- ☐ ☐ Uncertainty Visualization
- ☐ ☐ View-dependent Visualization
- ☐ ☐ Visual Design
- ☐ ☐ Visualization System and Toolkit Design

Applications

- ☐ ☐ Bioinformatics Visualization
- ☐ ☐ Biomedical and Medical Visualization
- ☐ ☐ Business and Finance Visualization
- ☐ ☐ Data Warehousing, Database Visualization and Data Mining
- ☐ ☐ Geographic/Geospatial Visualization
- ☐ ☐ Molecular Visualization
- ☐ ☐ Multimedia (Image/Video/Music) Visualization
- ☐ ☐ Software Visualization

- ☐ ☐ Visualization for the Masses
- ☐ ☐ Visualization in Earth, Space, and Environmental Sciences
- ☐ ☐ Visualization in Education
- ☐ ☐ Visualization in Mathematics
- ☐ ☐ Visualization in Physical Sciences and Engineering
- ☒ ☐ Visualization in Social and Information Sciences
- ☐ ☐ Visualization in the Humanities

Visual Analytics Applications

- ☐ ☐ Emergency/Disaster Management
- ☐ ☐ Intelligence Analysis
- ☐ ☐ Network Security and Intrusion
- ☐ ☐ Privacy and Security

- ☐ ☐ Sensor Networks
- ☐ ☐ Situational Awareness
- ☐ ☐ Time Critical Applications

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