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Deadlines

Paper Submission:

August 10, 2008

Acceptance Notice:

September 15, 2008

Camera-ready copy:

October 07, 2008

Best Paper Award

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Rationale: With advances in remote sensors, sensor networks, and the proliferation of location sensing devices in daily life activities and common business practices, the generation of disparate, dynamic, and geographically distributed spatiotemporal data has exploded in recent years. In addition, significant progress in ground, air- and space-borne sensor technologies has led to an unprecedented access to earth science data for scientists from different disciplines, interested in studying the complementary nature of different parameters. These developments are quickly leading towards a data-rich but information-poor environment. The rate at which geospatial data are being generated clearly exceeds our ability to organize and analyze them to extract patterns critical for understanding in a timely manner a dynamically changing world. Computer science and geoinformatics are collaborating in order to address these scientific and computational challenges and provide innovative and effective solutions.

More specifically, efficient and reliable data mining techniques are needed for extracting useful geoinformation from large heterogeneous, often multi-modal spatiotemporal datasets. Traditional data mining techniques are ineffective as they do not incorporate the idiosyncrasies of the spatial domain, which include (but are not limited to) spatial autocorrelation, spatial context, and spatial constraints. Extracting useful geoinformation from several terabytes of streaming multi-modal data per day also demands the use of modern computing in all its forms. Thus, we invite computer science and geoinformatics researchers to participate in this event in order to share, contribute, and discuss the emerging challenges in spatial and spatiotemporal data mining.

Topics: The major topics of interest to the workshop include but are not limited to:

- Theoretical foundations of spatial and spatiotemporal data mining
- Spatial and spatiotemporal analogues of interesting patterns: frequent itemsets, clusters, outliers, and the algorithms to mine them
- Spatial classification: methods that explicitly model spatial context
- Spatial and spatiotemporal autocorrelation and heterogeneity, its quantification and efficient incorporation into the data mining algorithms
- Image (multispectral, hyperspectral, areal, radar) information mining, change detection
- Role of uncertainty in spatial and spatiotemporal data mining
- Integrated approaches to multi-source and multimodal data mining
- Resource-aware techniques to mine streaming spatiotemporal data
- Spatial and spatiotemporal data mining at multiple granularities (space and time)
- Data structures and indexing methods for spatiotemporal data mining
- Spatial and Spatiotemporal online analytical processing, data warehousing, and geospatial intelligence
- Climate Change, Natural Hazards, Critical Infrastructures
- Applications that demonstrate success stories of spatial and spatiotemporal data mining

Proceedings: Accepted papers will be included in a ICDM Workshop Proceedings volume, to be published by IEEE Computer Society Press, which will also be included in the IEEE Digital Library. In addition, selected papers are going to be included in a planned journal special issue.

Web: <http://www.ornl.gov/sci/knowledgediscovery/SSTDM-08/>

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