

CIDU 2011: The NASA Conference on Intelligent Data Understanding

October 20-21, 2011 – Computer History Museum, Mountain View, CA, USA

Conference Website: <https://c3.ndc.nasa.gov/dashlink/projects/43/>

CALL FOR PAPERS

The NASA Conference on Intelligent Data Understanding is application-oriented with a focus on Earth & Environmental Systems, Space Science, and Aerospace & Engineering Systems. The CIDU 2011 Program Committee is soliciting theme-oriented papers that help advance one of the aforementioned applications through machine learning or data mining techniques. We invite papers that include a clear link between the domain (application area) and machine learning / data mining. The papers should also highlight the “data understanding aspect: what new understanding was achieved via the application of machine learning / data mining methods?”

The proceedings of CIDU 2011 will be published by NASA and archived in the NASA Center for Aerospace Information, and will be indexed by DBLP. Selected papers will be invited to be extended for consideration for publication in the journal Statistical Analysis and Data Mining.

CALL FOR POSTERS

The CIDU 2011 Program Committee also solicits submissions of 2-page extended abstracts reporting new and interesting results, ideas, work-in-progress, as well as highlights of work published within the last 12 months. The topics of interest for poster submissions are the same as for the refereed paper track. Posters will be peer-reviewed based on quality and significance, and authors of accepted posters will be asked to present a technical poster during the CIDU 2011 conference. All accepted papers will also be invited to present a poster to highlight the work.

TOPICS OF INTEREST

Methodology Papers

Focus on algorithmic or methodological innovations that are relevant to one or more application areas or hold potential for one or more applications. The authors should clearly specify the (potential) application of their work. We also invite papers that have a data visualization component.

Earth & Environmental Systems Applications

- Climate and ecology data sciences
- Climate modeling
- Sustainability
- Geographic information systems
- Geospatial intelligence
- Spatio-temporal data mining
- Visual analytics for earth science data
- High-performance computing applications
- Evaluation or validation techniques

Space Science Applications

- On-board and real-time machine learning
- Decision making under uncertainty
- Constraint-driven data mining and machine learning
- Event mining and robotic telescopes
- Unsupervised and supervised learning in astrophysics
- Highly scalable algorithms
- Risk management in space missions
- Classification in large sky surveys

Aerospace and Engineering Systems

- Government engineering applications (DOE, DOD, others)
- Systems health applications
- Anomaly detection/diagnostics/prognostics for large datasets
- Text mining in aerospace information systems
- Data driven reliability modeling
- Adaptive system monitoring
- System model identification
- Large data set challenges
- Exploratory mining of aerospace data
- Privacy and security issues in aerospace data
- Statistical process control using very large datasets

KEY DATES

Papers submissions due: May 13, 2011

Acceptance notification: July 8, 2011

Camera-ready papers due: July 29, 2011

Poster abstracts due: July 22, 2011

Poster decision notification: August 19, 2011

There is no registration fee for this conference, but we encourage registration by August 31, 2011 as space is limited. Participants will be asked to pay a nominal amount for covering food and refreshments.

ORGANIZING COMMITTEE

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Acknowledgement

CIDU gratefully acknowledges support from the NASA Aviation Safety Program, System-Wide Safety and Assurance Technologies Project.