

CALL FOR PAPERS
Special Session on

Machine Learning and Data Mining in Artificial Satellites

Under the framework of the 5th International Conference on Information System Design and Intelligent Applications

19th -21st July, 2018

Organised by University des Mascareignes, Mauritius, India
www.indiaconf.org

Aim and Scope

Space missions addressing different science questions related to the earth's varying spheres are on the rise. Hence, monitoring artificial satellite's health and functioning are of great importance using the wealth of the streamed Telemetry data received at the ground control units. Owing to the large volume of telemetry data collected, either in real time or saved mode, during the mission's life span, data mining techniques have been applied recently to data handling. Such algorithms are used for analyzing the satellite's telemetry data for anomalous behavior detection or for potential failures prediction. These failures include altitude determination, subsystem control, power and other parameters for onboard subsystems. Fault detection and prediction is one of the key technologies for health monitoring of in-orbit satellites. The fault detection and prediction methods for in-orbit satellites is studied by the data mining technology. The deep mining method for telemetry of the in-orbit satellite is studied. Then, several fault detection and prediction methods are proposed, which have been developed and used in fault detection and prediction of actual in-orbit satellites.

Topics of interest

Original contributions, not currently under review to another journal or conference, are solicited in relevant areas including, but not limited to:

- Data mining for detecting anomalies
- Data mining in satellite images
- Data mining in remote sensing
- Data mining in ground target detection and classification
- Data mining for big telemetry data in satellites
- Data mining in satellite communication
- Data mining for in-orbit satellite
- Deep learning in telemetry data
- Visualization techniques for telemetry data
- Satellite navigation datamining

- Unpacking telemetry data for mining
- Swarm intelligence for telemetry data
- Swarm intelligence for resources management in satellites
- Satellite scheduling prediction algorithms
- Advanced machine learning and data mining techniques in satellites

Submission Guidelines

Authors are invited to submit manuscripts reporting original unpublished research and recent developments. Manuscripts should be written in English and strictly follow the guidelines of the conference at: www.indiaconf.org

All submissions should be in the Springer format. Papers should contain up to 5 keywords. Papers will be evaluated for originality, significance, clarity, and soundness.

Manuscripts must include: (1) the title, author's name(s), affiliation, abstract, and a list of keywords in English, (2) the body of the manuscripts, and (3) references.

Papers must be submitted within the stipulated time and electronic submission in PDF is required.

The papers submitted should neither be published earlier nor be currently under consideration for publication elsewhere in any national or international conference. The authors of the accepted papers will be allowed to make a correction in accordance with the suggestions of the reviewers and submit final camera-ready papers within the stipulated deadline. The conference proceedings will be distributed amongst the participants during the conference. Accepted papers must be presented by author(s) personally to be published in the conference proceedings.

Some selected papers will be published in the Book of Machine Learning and Data Mining in Aerospace Sciences which will be published by Springer Verlag.

Important Dates

Submission of Full papers: 30th April 2018

Notification of papers: 30th May 2018

Session Chairs

About Ella Hassanien

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**All papers must be submitted to : ashraf.darwish.eg@ieee.org
(Not to Easy chair link)**