

2<sup>nd</sup> International Convention on

# Geosciences and Remote Sensing

November 08-09, 2017 | Las Vegas, USA

## Recent upsurge in remote sensing: ACO/PSO optimization based algorithm for image clustering

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In our present topic, ant colony optimization (ACO) and particle swarm optimization (PSO) based optimization techniques have been applied to perform satellite image classification with fewer amounts of discontinuity, conflicts and constraint of imprecise knowledge and evaluation of data. Land cover analysis by virtue of image classification are always associated with certain amount of vagueness, uncertainty and ambiguity during the classification from the remotely sensed data. In the present scenario, we are able to presents a hybrid ACO/PSO technique that are extracted through expert knowledge for a more focused EOS satellite image classification. This abstract investigates the principle of traditional rule mining, which will produce more non-supplementary candidate sets when it reads data into candidate items. Especially, when it deals with massive data, if the minimum support and minimum confidence are relatively small, combinatorial explosion of common item sets will occur and computational power and storage space required are likely to exceed the limits of machine. ACO/PSO optimization algorithm based on conventional ant-miner and swarm optimization algorithm is proposed and is used in rules mining for supervised clustering of digital number (DN) values in satellite images. Measurement formula of effectiveness of the rules is improved and pheromone concentration update strategy is also carried out. The experiment results show that execution time of proposed algorithm is lower than traditional algorithm and has better execution time and accuracy for EOS image.

### Biography

Aruna Saxena has PhD in Architecture using Remote Sensing and GIS technology in 2002. She did Specialization in Advance Remote Sensing and GIS from International Institute of Aerospace Survey and Earth Sciences (ITC), Enschede, the Netherlands in 2006. She has published more about 70 research papers, guided 5 PhD thesis, 12 MTech thesis, authored one textbook on GIS and spatial data published in July 2008, organized various training programs and conferences, and prepared educational films.

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