DMGI 2010 Workshop Report
The First ACM SIGSPATIAL International Workshop on Data Mining for Geoinformatics
(San Jose, California - November 2, 2010)

Jessica Lin, Guido Cervone, Nigel Waters
George Mason University
(General Chairs)

During this one-day event, the ACM SIGSPATIAL International Workshop on Data Mining for Geoinformatics (DMGI) brought together scientists working in different fields such as geographic information science (GIS), data mining, machine learning, geoinformatics, remote sensing, and earth and atmospheric sciences, to propose new ideas, identify promising technologies, pose challenges, and inspire new research directions. It provided a forum for the exchange of ideas and the establishment of synergistic activities among researchers and practitioners from both academia and industry. The DMGI Workshop was a great success.

We received 12 submissions for the workshop. In addition to the six papers that were accepted as full papers, one paper was accepted as a student paper (equivalent to the PhD showcase that we adapted from ACM SIGSPATIAL GIS 2010). The papers cover diverse topics and applications, including:

- Polygon clustering, for analysis of ozone pollution in Texas;
- Multi-class classification, for land cover change detection;
- Framework that facilitates integration and collaboration among heterogeneous sources of spatial data on the web;
- Geospatial route extraction from texts;
- Assessment of errors in air quality models using dynamic time warping;
- View reconstruction from images, with applications in surveillance and satellite image analysis
- Land use analysis using GIS, radar, and thematic mapper in Ethiopia

The Program Committee was constituted of members from the data mining, machine learning, and geoinformatics areas. Each submitted paper was carefully reviewed by at least two reviewers.

Multiple discussion sessions were held during the workshop that gave each participant the opportunity to ask and answer questions. The discussion was not limited to the presentations, but included important topics such as the state-of-the-art and future direction for Geoinformatics and data mining. The workshop was a good opportunity to discuss the coming together of these two fast growing fields.

Suggestions for Future DMGI Events

At the end of the workshop, different opportunities for future events were discussed. Given the positive response of the participants, it was decided to continue this workshop. In the future, more emphasis will be put on topics which were not covered in the 2010 workshop such as Earth science applications, analysis of data relative to natural hazards, both atmospheric and geological, geospatial intelligence and remote sensing data analysis. More emphasis will also be put on the GIS aspect of the research, and how different existing data mining and machine learning tools can help in the analysis of data in a GIS environment.

Finally, different venues for future events were discussed, and it was decided that to offer the DMGI workshop under the auspices of the SIGSPATIAL series is commendable.