

Introducing an improved fast and computationally-efficient SOM algorithm—MIL-SOM*: Issues and Benefits for Large-Scale Geospatial Data

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Abstract. The objective of this paper is to introduce to the GIScience community another constructive SOM algorithm, the mathematically improved learning-Self-Organizing Map (MIL-SOM*). The main opportunity for improvement of Kohonen's self-organizing map lies in the fact that the new update rule exposes the difference between the input vector and the winning output neuron. A major improvement to SOM learning algorithm is proposed. The MIL-SOM* algorithm provides a better updating procedure than the original one proposed by Kohonen's SOM.