Applications of Discrete and Computational Geometry to Geoprocessing

Guest Editor:

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Deadline for manuscript submissions:
closed (31 July 2021)

Message from the Guest Editor

Dear Colleagues,

Discrete and computational geometry represents a core knowledge for dealing with discretized geometric objects, such as finite sets of points, lines, triangles, and polygons. Geoprocessing with vector datasets is based on algorithms and data modes that have been developed in computational geometry. Convex hulls, buffers, Delaunay triangulations, and polygon overlays are common geometric operations that are integrated into spatial database management systems (SDBMS), geographical information systems (GIS), and various libraries and tools for geospatial analysis, like GDAL/OGR or the Java Topology Suite (JTS). In most cases, users of such systems are not aware of the actual algorithms underlying geometric operations, which are seen as out of the box components.

As discrete and computational geometry is a young discipline, there are still open issues and new and more efficient algorithms are discovered every day. In this Special Issue, we bring together researchers and developers in computational geometry and geographic information science to pin down the state of the art and define new challenges and prospects from the synergy between the two fields.

mdpi.com/si/48661

Special Issue

Editor-in-Chief

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Message from the Editor-in-Chief

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