# Functions of NOSQL DBMS for processing spatial data

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**Abstract.** An increasing number of database management systems are expanding their functionality to work with various types of spatial data. This is true for both relational and NoSQL data models. The article presents the main features of those data models for which the functions of storing and processing spatial data are implemented. The methods of artificial intelligence, which are implemented on the basis of a particular data model, are considered. A comparative analysis of the performance of typical spatial queries for database management systems based on various data models, including multi-model ones, is performed. The data set on which the comparison is performed is presented as three blocks of OpenStreetMap vector data for the territory of the Novosibirsk region. Based on the results of the study, recommendations are given on the use of certain data models, depending on the available data and the tasks being solved.

**Keywords:** DBMS, spatial data, processing methods, spatial analysis, artificial intelligence, machine learning

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