TU Clausthal

Kolloquium zur Masterarbeit

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„Execution Speed of Graph Queries with Spatial Predicates in Neo4j"

Geographic Knowledge Graphs represent spatial objects and are widely used by many applications such as UberEats, Yelp, and GrubHub. Several graph database management systems (GDBMS) already support spatial predicates. However, the execution speed of graph queries with spatial predicates in existing GDBMS is somehow not suitable for real-time or near real-time applications. Most of all, when the scale of the graph is large. In Neo4j for example, the query processor uses one of these two main strategies to execute Graph queries with spatial predicates (GraSp): Namely, GraphTraverse or SpaIndex strategy. However, the execution speed of GraSp in Neo4j is slow, when the query graph has a large scale, or when there are many spatial nodes within the query rectangle. Hence the importance of finding a way to execute GraSp faster. In this work, we propose DepthMap, a new strategy to execute GraSp in Neo4j faster.

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