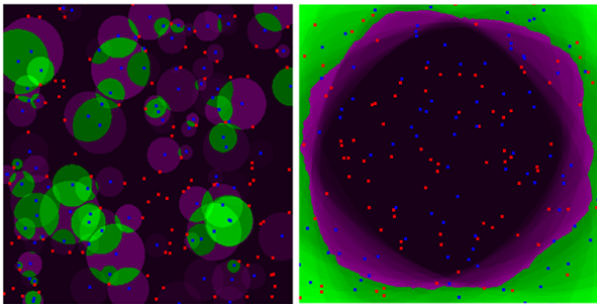


Finding influential location regions based on reverse k-neighbor queries

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In this paper we introduce and solve several problems that arise in the single facility location field. A reverse k-influential location problem finds a region such that the location of a new facility, desirable or obnoxious, in the region guarantees a minimum k-influential value associated to the importance, attractiveness or repulsiveness, of the facility as a solution to a reverse k-nearest or farthest neighbor query. Solving reverse k-influential location problems help decision makers to progress towards suitable locations for a new facility. We present a parallel approach, to be ran on a graphics processing unit, for approximately solving

reverse k-influential location problems, and also provide and discuss experimental results showing the efficiency and scalability of our approach.