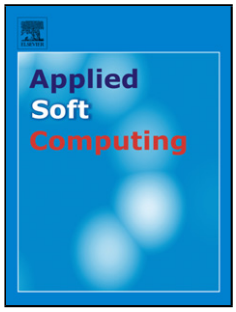

Title: Cellular matrix model for parallel combinatorial optimization algorithms in Euclidean plane

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Highlights

- We propose a generic parallel computation model—cellular matrix model (CMM)—for combinatorial optimization algorithms applied to graph matching problems.
- We instantiate CMM to parallel implementations of two important algorithms: self-organizing map (SOM) algorithm and distributed local search (DLS). We test the two algorithms with two core image processing applications respectively: superpixel segmentation and stereo matching energy minimization.
- For each problem, the parallel GPU implementation based on CMM provides competitive quality/time trade-offs with substantial acceleration factors as the problem size increases.