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Lou, Shan, Jiang, Xiang and Scott, Paul J.

A Fast Algorithm for Morphological Filters

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The proposed fast algorithm employs alpha shape as the basis of the computation. The boundary of the hull obtained by rolling the alpha ball over the point set is used as the input for the morphological filter. The steps are listed as follows:

i. Pre-process.
ii. Delaunay triangulation.
iii. Alpha shape.
iv. Envelop calculation.

Two examples are presented to demonstrate the morphological closing filters on the profile and the surface. The running time data shows that the proposed algorithm is much faster than the naive algorithm.

A fast algorithm for morphological filter is proposed. The data shows the fast algorithm is much efficient than the naive one. Feature work includes:

- Develop the continuous algorithm.
- Apply morphological filters to wolf pruning.

References