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An optimal algorithm for 3D triangle mesh slicing

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 \ast This paper describes novel algorithms for the triangle mesh slicing and contour construction problems.

* The slicing algorithm uses a sweeping plane strategy highly simplified and optimized for unstructured triangle sets.

* The contour construction algorithm uses a hash table strategy to assemble polygons in linear time.

* A remarkable improving in execution time was achieved in relation to other algorithms from the literature.

* Considerable contribution in the process planning for areas such as medicine where the meshes have large number of triangles.

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