

## AN ALGORITHM FOR 2D FIGURES SKELETONIZATION

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The labeled skeleton is generally recognized as an appropriate representation of digital figures, whose thickness is neither disregardable nor constant, and has been used as a tool for shape decomposition and description [1]. This tool is very useful in segmentation of medical images (especially CT and MR images), where many aspects of imaging conditions are difficult to control. The incorporation of knowledge about shape, location, appearance and spatial context of an organ or pathological structure, such as human brain ischemic stroke area, is essential in this case.

There are several approaches to digital figures skeletonization. One can distinguish between four substantially different variants of skeletonization algorithms: simulation of the "grassfire", analytical computation of the median axis, topological thinning and median axis extraction from a distance map [2].

We propose a skeletonization algorithm of 2D images based on consecutive medial axis construction using minima and maxima of two distance functions and present results of computation experiments with this new algorithm.

### REFERENCES

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- [2] R.L. Ogniewicz and O. Kuebler. Hierarchic Voronoi Skeletons. *Pattern recognition*, **28** 1995, 343 - 359.