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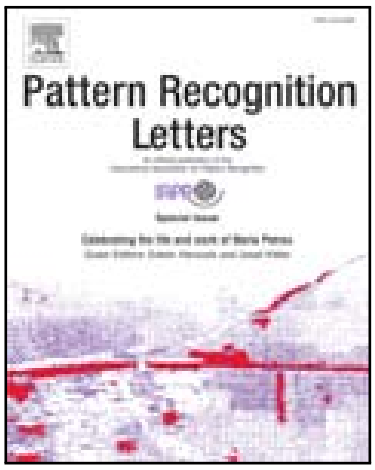

Effective homology of filtered digital images

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Research Highlights (Required)

- The methods of effective homology can be applied to compute persistent homology of digital images.
- An algorithm to compute a discrete vector field (and the corresponding reduction to a smaller chain complex) for an image has been used.
- Our algorithm has been unfolded to cover the case of a filtered digital image, so allowing us to determine the persistent homology, together with the geometrical generators.
- Our approach has shown a good reduction power both in artificial examples and in actual images extracted from a public fingerprints database.

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