



Robust graph representation of images with underlying structural networks. Application to the classification of vascular networks of mice's colon

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Auteur	Bujoreanu, Denis [1], Dorez, Hugo [2], Boutegrabet, Warda [3], Moussata, Driffa [4], Sablong, Raphaël [5], Rousseau, David [6]
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Résumé en anglais	<p>In this letter, we consider scenes constituted by underlying structural networks. This is an important issue since such scenes appear in many domains of sciences with for instance images of road networks, vascular networks, root systems, etc. The extraction of information from such networks requires characterization methods specifically designed to preserve the topological structure of the network hidden in the image. We propose an entire image processing pipeline for this task with a robust joint segmentation and graph-based representation approach. The proposed method relates, in the closest literature, to the so-called Maximally Stable Extremal Region here extended to extremally stable graph. The method is successfully illustrated with a real world biomedical pattern recognition problem solved with our approach. The robustness of the most common graph parameters is discussed from Monte Carlo simulations on synthetic graphs.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua17341 [10]
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Liens

[1] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=24252>

- [2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=28841>
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- [11] <http://dx.doi.org/10.1016/j.patrec.2016.07.022>
- [12] <https://www.sciencedirect.com/science/article/pii/S0167865516301842?via%3Dihub>

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