Revisiting SIFT for plant foliage in RGB images acquired on a turntable

Submitted by David Rousseau on Sun, 10/06/2019 - 07:49

Titre	Revisiting SIFT for plant foliage in RGB images acquired on a turntable
Type de publication	Communication
Type	Communication avec actes dans un congrès
Année	2019
Langue	Anglais
Date du colloque	4-5/07/2019
Titre du colloque	IAMPS
Auteur	Dutagaci, Helin [1], Belin, Etienne [2], Rousseau, David [3]
Pays	France
Ville	Lyon
Mots-clés	Image processing [4], Plant Foliage [5], self-similarity [6], SIFT [7]
Résumé en anglais	In this work, SIFT features are revisited for their use in two applications of computer vision for plant analysis. The first application is the reconstruction of 3D models of plants through tracking homologue points in successive intensity images. The second application is to provide a new global descriptor that gives a measure of the level of self-similariy of foliage for plants of different architectures and foliar appearance. In order to properly exploit SIFT descriptors in relation to these applications, we discuss two aspects of the classical SIFT keypoint matching practice. On the one hand we propose to match detected keypoints based on a scale criterion. On the other hand, we drop the ratio rule while matching keypoints in two images and propose the use of a spatial proximity filter instead.
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