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Abstract

Human has a duty to preserve the nature. One of the examples is preserving the ornamental plant. Huge economic value of plant trading, escalating esthetical value of one space, and medicine efficacy that contained in a plant are some positive values from this plant. However, only few people know about its medicine efficacy. Considering the easiness to obtain and the medicine efficacy, this plant should be an initial treatment of a simple disease or option towards chemical based medicines. In order to let people get acquaint, a system that can proper identify this plant is needed. Therefore, this work proposesto build a system based on Redundant Discrete Wavelet Transformation (RDWT) through its leaf. Since its character is translation invariant that able to produce some robust features to identify ornamental plant. This system was successfully resulting 95. 83% of correct classification rate.

Refer

ences

- Park Jinkyu, Hwang Eenjun, Yunyoung Nam, "Utilizing venation features for

efficient leaf image retrieval"; The Journal of System and Software, Vol. 81, pp. 71-82, 2008.

- Du Jin-Xiang, Wang Xiao-Feng, Zhang Guo-Jun, "Leaf Shape based plant species recognition";, Applied Mathematics and Computation, Vol. 185, pp. 883-893, 2007.
- Wang Xiao-Feng, et. al, "Classification of plant images with complicated background";, Applied Mathematics and Computation, Vol. 205, pp. 916-926, 2008.
- Hartati Sri. 2011. Tanaman hias berkhasiat obat. IPB Press. (In Indonesian)
- Sweldens Wim, "Wavelet and the lifting scheme: a 5 minute tour".
- Ben-Hur Asa, Weston Jason, "A user's guide to support vector machine";, in Data Mining Techniques for the Life Science, pp 223-239, Humana Press, 2010.
- Hsu Chih-Wei, Chang Chih-Chuang, Lin, Chih-Jen, "A practical guide to support vector classification";, Department of Computer Science National Taiwan University, Taiwan, 2010.
- Starck Jean-Luc, Murtagh Fionn, Fadili Jalal M. 2010. Sparse image and signal processing. Cambridge University Press. .
- Mallat Stephane. 2009. A wavelet tour of signal processing. Academic Press.
- Christianini Nello, Shawe-Taylor John. 2000. An introduction to support vector machine and other kernel-based learning methods. Cambridge University Press.

Index Terms

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Keywords

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