
Subject: Re: Probability label relaxation

Posted by [mort.canty](#) on Tue, 31 Jan 2012 15:55:14 GMT

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On 30 Jan., 14:21, "pulchowk-campus-alumni-europa@googlegroups.com"

<shres...@googlemail.com> wrote:

> Dear all,

>

> i am trying to understand a post classification method of probability

> labe relaxation method as described by jia and richards !

>

> Mr. Mort canty has coded the algorithm in IDL about i am finding hard

> to understand the logic behind how the "compatibility

> coefficients" is being carried out in the code ! His code is available

> athttp://mcanty.homepage.t-online.de/software.html.

>

> if anybody could shed light on how the compatibility coefficients is

> carried out, i will be a happy man.

The code scans through the initial classification probabilities image, comparing the class of each pixel with that of its immediate neighbours. If pixel i has class m and a neighbouring pixel has class n, then the compatibility matrix element $P(m,n)$ gets bumped by one (we got some evidence for compatibility of classes m and n). What's maybe confusing you in the code is that it gets the class by looking for the maximum class membership probability associated with the pixel, i.e., in ENVI terminology it works with the "rule image" and not with the "classification image".

After the scan, the matrix is normalized. Then the class membership probabilities of each pixel are "relaxed" according to Richards and Jia (see Eq. 7.5 in my book). You can repeat this as often as you like, but more than 3 or 4 times isn't a good idea.

Hope this makes you happy,

Mort
