
Subject: Re: Image Classification with IDL
Posted by [Mort Canty](#) on Thu, 13 Nov 2008 18:26:35 GMT
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gsever schrieb:

- > Hello,
- >
- > We are planning to design an IDL based program which will help us to
- > classify cloud particles that are measured with 2DC Optical Array
- > Probes.
- >
- > To illustrate more here is one example of raw 2DC image:
- >
- > <http://img139.imageshack.us/my.php?image=2dcnf3.png>
- >
- > We want to be able to categorize the particles as spheres, irregulars,
- > needles and columns, and dendrites as it is shown on this Figure
- > ([http://ams.allenpress.com/perlserv/?request=display-](http://ams.allenpress.com/perlserv/?request=display-figures&name=i1520-0426-17-8-1048-f01)
- > [figures&name=i1520-0426-17-8-1048-f01](http://ams.allenpress.com/perlserv/?request=display-figures&name=i1520-0426-17-8-1048-f01)).
- >
- > There is a program implemented with Matlab ([http://](http://www.skytechresearch.com/feedback.htm)
- > www.skytechresearch.com/feedback.htm) Since we have only IDL licensed
- > here and that program is costly, we are going to focus on IDL.
- >
- > I would like to know whether IDL is suitable for this type of jobs?
- > Any libraries exist like Matlab's Image Processing Toolbox?
- >
- > Any guidance or comments will be very appreciated.

At the risk of telling you what you already know, looking at your examples it seems it might be good to use Hu's invariant moments (see e.g. Digital Image Processing, Gonzalez and Woods, 2002). They are translation- rotation- and scale-invariant and should discriminate spheres, needles, irregular shapes etc. Maybe use them to train a neural network? I've played around with them a bit and can give you an IDL function that calculates them.

Cheers

Mort

Subject: Re: Image Classification with IDL
Posted by [gsever](#) on Thu, 13 Nov 2008 20:48:06 GMT
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I already guessed the answer to my questions should lie in some Image Processing books. Looking at some of the links on the Gonzalez's DIP

book page I have found the tool titled CVIPTools (<http://www.ee.siue.edu/CVIPtools/>) might be worth to check.

I would appreciate if you provide those IDL routines, as well.

On Nov 13, 12:26 pm, Mort Canty <m.ca...@fz-juelich.de> wrote:

>
> At the risk of telling you what you already know, looking at your
> examples it seems it might be good to use Hu's invariant moments (see
> e.g. Digital Image Processing, Gonzalez and Woods, 2002). They are
> translation- rotation- and scale-invariant and should discriminate
> spheres, needles, irregular shapes etc. Maybe use them to train a neural
> network? I've played around with them a bit and can give you an IDL
> function that calculates them.
>
> Cheers
>
> Mort

Subject: Re: Image Classification with IDL
Posted by [Mort Canty](#) on Thu, 13 Nov 2008 21:40:33 GMT
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gsever schrieb:

> I already guessed the answer to my questions should lie in some Image
> Processing books. Looking at some of the links on the Gonzalez's DIP
> book page I have found the tool titled CVIPTools (<http://www.ee.siue.edu/CVIPtools/>) might be worth to check.

Well, that's not exactly IDL, but it's free .-)

>
> I would appreciate if you provide those IDL routines, as well.
>
>

Sent you a mail.

-Mort
