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-
> figures&name=i1520-0426-17-8-1048-f01).
>
> There is a program implemented with Matlab (http://
> 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