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Subject: Re: Fitting an ROI to a distribution of points  
Posted by [Edd Edmondson](#) on Wed, 01 Feb 2006 17:24:10 GMT  
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David Fanning <davidf@dfanning.com> wrote:

> Olivia writes:

>> I have a set of (x,y) coordinates which represent point-like galaxies  
>> in a galaxy cluster. Ultimately I want to describe the shape of the  
>> cluster as an ellipse, but I was planning on making some kind of blob  
>> first. I thought of gaussian smoothing, but I cannot work out how to  
>> get a filled in shape described by pixels to start working with. Does  
>> anyone have any ideas?

> Here are a couple of articles describing techniques that you  
> might be able to use. The first describes how to create  
> a convex hull around a set of points. You could fill  
> in the polygon (convex hull) to create a blob of some  
> sort. The second describes how to calculate an ellipse  
> for a set of random points using a weighed average  
> approach.

> [http://www.dfanning.com/tips/convex\\_hull.html](http://www.dfanning.com/tips/convex_hull.html)  
> [http://www.dfanning.com/ip\\_tips/fit\\_ellipse.html](http://www.dfanning.com/ip_tips/fit_ellipse.html)

After posting, I'd definitely take that fit\_ellipse approach!

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Edd

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