Subject: ROI points don't seem to get stored properly
Posted by robintw on Fri, 18 Dec 2009 21:51:54 GMT
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Hi all,

I've written the code below to create a routine to shrink an ENVI ROI by 1 pixel on each side. The way it does this (probably not the most efficient way) is to get the points for the ROI, set all those points to 1 in a 2D array the size of the image, and then use the CONVOL function to find all points that are not surrounded by ones.

I've got that bit of the code worked out fine, but when I tell ENVI to create a ROI with the points that I've decided should be in the new, shrunk ROI, it seems to go strange. It doesn't give any error messages, but when I then ask for all the points in that new ROI back it gives me a crazy list with all the X values as zero, and the Y values correct.

Does anyone have any idea what's going on with this? I've been struggling with it for a few days now, and suspect it's going to be something silly - I just can't see what it is.

Code below:

```
PRO SHRINK_ROI, fid, roi_id
  ; Get the number of samples
  ENVI_FILE_QUERY, fid, ns=ns, nl=nl

  ; Get the array of 1D points then convert them to actual x and y co-
ords
  points = ENVI_GET_ROI(roi_id)

  if points[0] EQ -1 THEN RETURN

  image_array = intarr(ns, nl)

  ;x_points = intarr(N_ELEMENTS(points))
  ;y_points = intarr(N_ELEMENTS(points))

  ;FOR i = 0, N_ELEMENTS(points) - 1 DO BEGIN
    ;x_points[i] = points[i] MOD ns
    ;y_points[i] = points[i] / ns
  ;ENDFOR

  point_indices = ARRAY_INDICES(image_array, points)

  print, "POINT INDICES"
```

```
  print, point_indices


  image_array[point_indices[0, *], point_indices[1, *]] = 1

  help, image_array

  ; Create the kernel for the summing CONVOL operation
  Kernel = FLTARR(3, 3)
  Kernel[0, *] = [0, 1, 0]
  Kernel[1, *] = [1, 1, 1]
  Kernel[2, *] = [0, 1, 0]

  ; Create an image where each element is the sum of the elements
within
  ; 3 pixels
  summed_image = CONVOL(image_array, Kernel, /CENTER, /EDGE_TRUNCATE)

  help, summed_image

  where_answer = WHERE(summed_image EQ 5, count)

  IF count EQ 0 THEN RETURN

  new_indices = ARRAY_INDICES(summed_image, where_answer)

  print, "NEW INDICES ARE:"
  print, new_indices

  new_x_indices = new_indices[0, *]
  new_y_indices = new_indices[1, *]

  new_roi_id = ENVI_CREATE_ROI(nl=nl, ns=ns, name="Shrunk ROI")
  ENVI_DEFINE_ROI, new_roi_id, /point, xpts=new_x_indices,
ypts=new_y_indices

  ; Extra testing bit of code. Here is where I find that the ROI
points come back differently.
  resulting_points = ENVI_GET_ROI(new_roi_id)

  resulting_point_indices = ARRAY_INDICES(image_array,
resulting_points)

  print, "Resulting POINT INDICES"
  print, resulting_point_indices


  print, "All done"
```

```
END

PRO SHRINK_ALL_ROIS
  ENVI_SELECT, fid=fid

  print, fid

  roi_ids = ENVI_GET_ROI_IDS(fid=fid)

  FOR i = 0, N_ELEMENTS(roi_ids) - 1 DO BEGIN
    print, "DOING ROI ID ", roi_ids[i]
    SHRINK_ROI, fid, roi_ids[i]
  ENDFOR
END
```

Cheers,

Robin
