
Subject: Dimeo genetic algorithm

Posted by [josea.malpica](#) on Mon, 24 Mar 2008 17:55:17 GMT

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I am using the genetic algorithms code by R. Dimeo (www.ncnr.nist.gov/staff/dimeo/idl_programs.html)

for the optimization of image classification. I have tried to pass data (image matrices) to the function to by optimaze (test_func_1) from the main program. First I tried with Functargs through keyword Extra, as in Dimeo's notes pg 80 "Application Development in IDL", but I got an error that said that the matrices have been undefined ¿?. I have tried everything but always get the same error. Dimeo's code works perfectly in my computer but when I put my data in I get my "undefined variable" error. The funny thing is that actually it runs the whole genetics algorithm, but at the end it produces the error. Then I tried to pass the parameter directly as pointers (because they are matrices 1000x1000) and the error says the same "undefined" or that the variable should be a pointer.

I use to program in C++, and is my first programming in IDL, The code of the function is something like this:

```
function test_func_1, p,G1_ptr,G2_ptr, _EXTRA = extra
  x1 = p[0] & y1 = p[1]
  z=total(x1*(G1_ptr)-y1*(G2_ptr))
  return,z
end
```

And the called from the main program

```
prange = [[-1.0,1.0],[-1.0,1.0]]
ofun = 'my_obj_fun'
func = 'test_func_1'
GENES1 = fltarr(num_bands,num_cols,num_rows)
GENES2 = fltarr(num_bands,num_cols,num_rows)
GENES1[*,*,*]=fid1
GENES2[*,*,*]=fid2
G1 = fltarr(num_cols,num_rows)
G2 = fltarr(num_cols,num_rows)
G1[*,*]=GENES1[1,*,*]
G2[*,*]=GENES2[1,*,*]
G1_ptr=ptr_new(G1)
G2_ptr=ptr_new(G2)
quiet = 0B
if ~quiet then begin
  xsize = 400 & ysize = 400
  window,0,xsize = xsize,ysize = ysize
  winvis = 0
  window,/free,/pixmap,xsize = xsize,ysize = ysize
```

```

winpix = !d.window
iterargs = {winvis:winvis,winpix:winpix}
iterproc = 'test_ga_iterproc'
endif
ftol = 1.e-2
p = rmd_ga(    ftol,                $
             function_value = function_value,  $
             function_name = func,             $
             prange = prange,                 $
;           /boltzmann,                 $
             ncalls = ncalls,                 $
             quiet = quiet,                  $
             objective_function = ofun,       $
             pcross = 0.95,                  $
             gene_length = 30,               $
             pmutate = 0.01,                 $
             stretch_factor = 1.,           $
             itmax = 4,                      $ ; cambiar
esto
             iterproc = iterproc,           $
             iterargs = iterargs,           $
             functargs= functargs,          $
             npop = 250 )

```

Do you know why is this error?
