Subject: Re: Resampling from cumulative probability distribution
Posted by David Fanning on Sat, 26 Jan 2008 14:58:45 GMT
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Klemens writes:

> I am computing a bootstrap analysis where the resampling routine from
> a cumulative probability distribution needs the most cpu time. May be
> you have some ideas how to eliminate the loop and speed up the
> routine ...
>
> function get_bootstrap_pdf, np, cdf
>
> zz = randomu(S, np) ; np is the number of
> samples
>
> cdfa = cdf[0:n_elements(cdf)-2] ; cdf is the cumulative
> probability distribution
> cdfb = cdf[1:n_elements(cdf)-1]
>
> b = fltarr(n_elements(cdf)) ; b will be the
> resampled distribution
> b[*] = 0.00
>
> for i = 0, n_elements(cdf)-2 do begin ;
> loop through all bins
> index = where((zz ge cdfa[i]) and (zz lt cdfb[i]))
> if (max(index) ge 0) then begin
> b[i] = n_elements(index)
> endif else begin
> b[i] = 0.00
> endelse
> endfor
>
> total_b = total(b)
> b = b / total(b)
>
> return, b
>
> end
>
> Thanks for your help in advance !

I think you want something like this. I've added a common block
for your seed. Without it, I think you will find your results
not all that random.:-)

function get_bootstrap_pdf, np, cdf

```
   common seed, s

   zz =  randomu(S, np)

   cdfa = cdf[0:n_elements(cdf)-2]
   cdfb = cdf[1:n_elements(cdf)-1]

   I = findgen(n_elements(cdfa))
   b = ((zz ge cdfa) and (zz lt cdfb)) * I

   return, b / total(b)

   end
```

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")
