
Subject: Re: Histogram & Cumulative Distribution Functions

Posted by [Justin\[3\]](#) on Fri, 27 Aug 2004 23:04:33 GMT

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To get the CDF from a (discrete) PDF use the TOTAL function with the CUMULATIVE keyword:

So if h is the output of HISTO then:

cumul = TOTAL(h, /CUMULATIVE)

tot = TOTAL(FLOAT(h))

pdf = cumul/tot

To find the 95th percentile use VALUE_LOCATE on the pdf to get the index of the array element closest to 0.95

index = VALUE_LOCATE(pdf, 0.95)

If 'l' contains the histo locations then your 95th percentile is at:

l[index]

Make sure you have enough bins in the histogram otherwise the percentile value can be coarse. You could even create a new histogram (just for the cdf calculation) with nbins >= number of data points to give an accurate percentile value.

Hope this helps,

Justin
