

## Rejection sampling

Choose to get one sample  
or lots of samples

Get one sample

Generate 10

Generate 100

Generate all

Target distribution

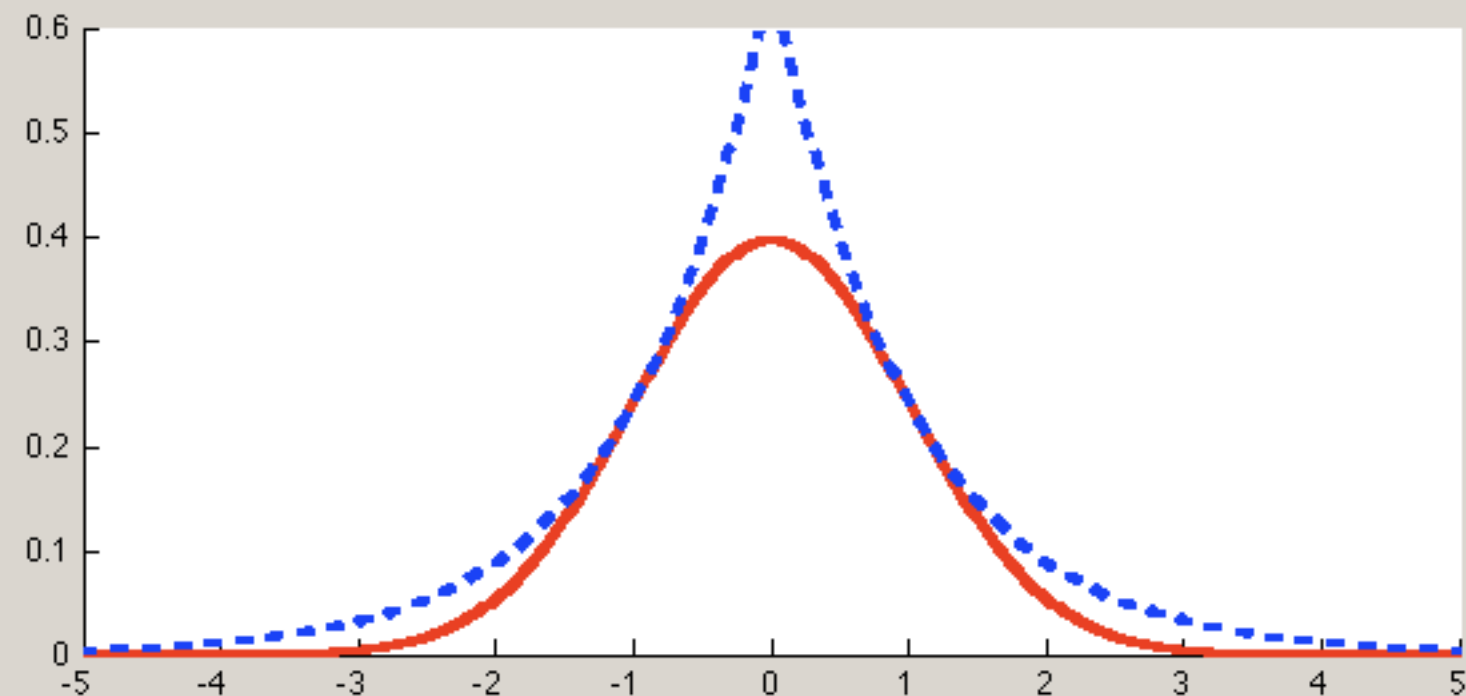
Normal (0,1)

Sample size

1000

Select the commentary  
level here

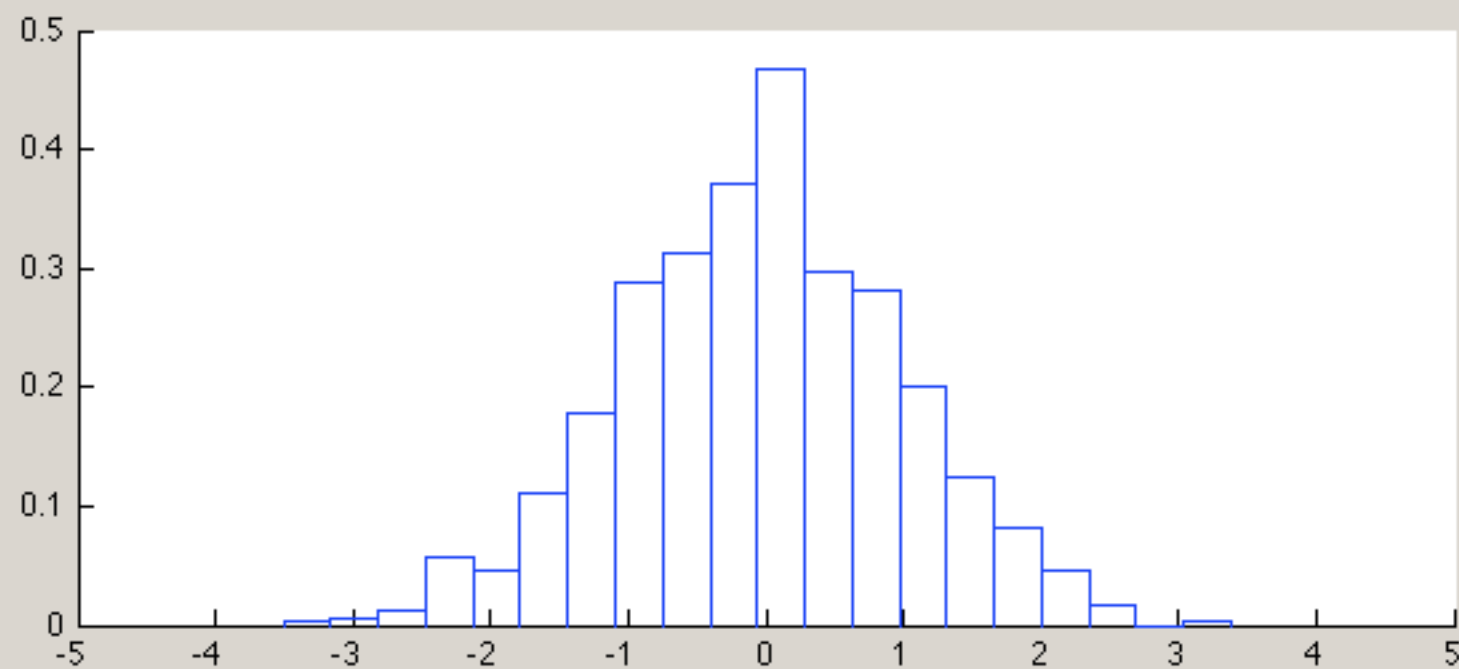
Lots of commentary



— Target  $f(x)$  is Normal(1, 0)  
- - Proposal  $g(x)$  is Laplace(1.0)



Density histogram of the accumulating sample



The target probability density function (pdf)  $f(x)$  is Normal(1, 0). The proposal pdf  $g(x)$  is Laplace(1.0). We need a constant  $a$  so  $f(x) \leq ag(x)$  for every  $x$  that we are trying to simulate the target  $f(x)$  over. The constant  $a$  to ensure this in this case is 1.32

The constant  $a$

1.32

The proposal  $y$

$g(y)$

$f(y)$

$f(y)/(ag(y))$

The uniform  $u$

Accepted?

Samples

1000

Rejections

310

Random seed

Close