

# Differential Privacy

Original Data

+

Calibrated Noise

=

Protected Data 

## Mechanisms

Gaussian Mechanism



Laplace Mechanism



Privacy Budget ( $\epsilon$ )

$\epsilon$  remaining

## Parameters

$\epsilon$

Privacy Loss  
Lower = More Private

$\delta$

Failure Probability  
Typically  $10^{-5}$

Typical Values

$\epsilon = 1-10$   
 $\delta = 10^{-5}$