

Class notes 3/3/2020

Quiz on entropy

Mechanisms that add noise

Systematic Rounding

Given base b , round the values to the closest multiple of b . Example, if $b = 5$, if $v = 22$, round down to 20. If $v = 23$ round up to 25. If $v = 22.5$? (Default is to round up, but may depend on application.)

Example ($b = 5$):

10	10	25
10	10	25
25	25	50

Random Rounding

Round down or up according to some rule. If not careful, vulnerable to attacks if not careful.

Data perturbation

Noise added to the data directly.

Data swapping

Interchange values in the records.

Randomized response

The purpose is to encourage individuals to respond truthfully to sensitive survey questions.

Differential privacy

Definition to classify algorithms that release statistics about data. The goal is for an observer seeing the algorithm's output not being able to tell if a particular individual's information was used by the algorithm. In other words, the result of the algorithm should not be differentiable if an individual is included or not.