

AUA CS108, Statistics, Fall 2020

Lecture 32

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Methods to find (good) Estimators

The Problem

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Problem: The Problem is to find/construct a good Estimator for θ , using our Random Sample.

The Method of Moments

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Note: Note that, in general, the Theoretical Moments of \mathcal{F}_θ are functions of θ .

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Note: The Empirical Moment is independent of the Parameter θ , it is just a Statistics, it is a function of X_1, X_2, \dots, X_n , it is a r.v.

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$$0, 1, 1, 2, 1, 0, 0, 1, 1$$

from the following Model:

X	0	1	2
$\mathbb{P}(X = x)$	$\frac{\theta}{10}$	$\frac{\theta}{5}$	$1 - \frac{3\theta}{10}$

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Example: Find the MoM Estimator for θ in the $Unif[-\theta, \theta]$ Model.

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