



MSC. DATA SCIENCE & ARTIFICIAL INTELLIGENCE

STATISTICAL INFERENCE THEORY

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Final project

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1 Exercise

Let X_1, \dots, X_n be Independent and Identically Distributed (iid) random variables with density:

$$f_\theta(x) = (k+1)\theta^{-k-1}x^k \mathbf{1}_{[0, \theta]}(x) \quad (1)$$

where $k \in \mathbb{N}_{\geq 0}$ and $\theta > 0$ is unknown.

Let $m := n(k+1)$.

1.1 Question 1

We want to find

1.2 Question 2

1.3 Question 3