

p-values

stats6256hyptst 625.5 - Testing statistical hypotheses

Gunnar Stefansson

October 25, 2021

The p-value

Suppose ϕ is a test function for $\theta \in \Theta_0$ such that $\phi(x) = 1$ iff $W(x) \geq c$. Define the function

$$p(x) := \sup_{\theta \in \Theta_0} P_{\theta} [W(X) \geq W(x)].$$

The p -value of the test is the random variable $p(X)$.

Copyright 2021, Gunnar Stefansson

This work is licensed under the Creative Commons Attribution-ShareAlike License. To view a copy of this license, visit

<http://creativecommons.org/licenses/by-sa/1.0/> or send a letter to Creative Commons, 559 Nathan Abbott Way, Stanford, California 94305, USA.