

Re: Linear Model Problem

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On Nov 15, 11:42 am, sonicb11 <williamp...@xxxxxxxxxxxx> wrote:

I am working on a linear model problem.

Here is the model:

$$W_i = a * Z_i + b * Z_i * X_i + Z_i * E_i$$

W_i is the observed response. a and b are the regression coefficients. Z_i follows a Beta distribution with parameters α and β (they are both unknown). X_i is a predictor variable, and E_i is the error with mean zero and variance σ^2 .

I need to estimate a , b , α , β , and σ^2 using method of moments. I want formulas for them. I've never seen a linear model like this before and have no idea how to tackle it. Any help or hints would be greatly appreciated. Thanks in advance.

Maybe using maximum likelihood, there is a solution? Either method. I just need some solution to estimate the parameters.

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