According to Wikipedia, if , then

Assume that:

#---------------------------------------------

Here is the notation for our model

Let the overall amount of time taken to transverse pixels be given by and let the corresponding latent group assignment be denoted by . We assume that:

Where

Furthermore, we assume that the latent group assignment is given by:

Finally, for our priors, we assume that:

This can be characterized as a mixture of Gamma regression models focused on modeling speed/velocity. Notice that the actual random variable of interest (the amount of time to transverse each pixel) is modeled implicitly because we only observe the total amount of time and the number of pixels .

#------------------------------------------------------------

FCD for V

* For V

This implies that