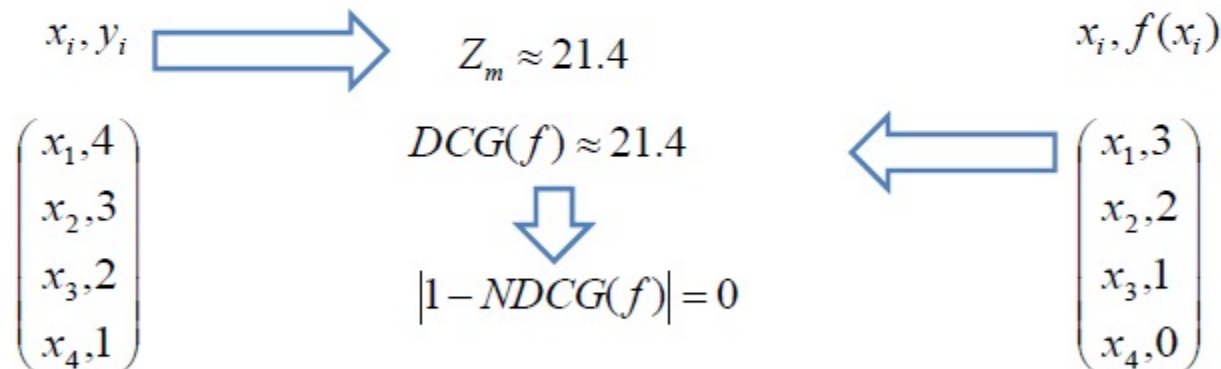


Pointwise Approach

- Although it seems the loss functions can bound (1-NDCG), the constants before the losses seem too large.



$$\frac{15}{Z_m} \sqrt{2 \left(\sum_{j=1}^m \left(\frac{1}{\log(j+1)} \right)^2 - m \sum_{j=1}^m \left(\frac{1}{\log(j+1)} \right)^{\frac{2}{m}} \right) \cdot \sum_{j=1}^m I_{\{y_j \neq f(x_j)\}} \approx 1.15 > 1$$