$$y_i \sim \text{Bernoulli}(\pi_i)$$

$$\text{logit}(\pi_i) = \alpha_0 + \eta_i$$

$$\begin{bmatrix} \boldsymbol{\eta} \\ \boldsymbol{\eta}^* \end{bmatrix} \sim \mathcal{N}\left(\begin{bmatrix} \mathbf{0} \\ \mathbf{0} \end{bmatrix}, \begin{bmatrix} \boldsymbol{\Sigma}_{11} & \boldsymbol{\Sigma}_{12} \\ \boldsymbol{\Sigma}_{21} & \boldsymbol{\Sigma}_{22} \end{bmatrix} \right)$$