$$w \sim N(\mathbf{0}, \Sigma_w)$$

$$\boldsymbol{\sigma}_w \sim U(\mathbf{0}, m_{\sigma_w})$$

$$\Sigma_w = diag(\boldsymbol{\sigma}_w)$$

$$\sigma_S \sim U(0, m_{\sigma_S})$$

$D_{\text{STS}} \cup D_{\text{SAS}}$

D_{ASR}

$$S \sim N(\boldsymbol{w}^T \boldsymbol{f}, \sigma_S^2) \quad p = Sigmoid(\boldsymbol{w}^T \boldsymbol{f})$$

$$A \sim Bernoulli(p)$$