$$\begin{pmatrix} y_{\text{sig}} \\ y_{\text{bg}} \end{pmatrix} \begin{pmatrix} 1.0 \\ 0.0 \end{pmatrix} \begin{pmatrix} 1.0 \\ 0.0 \end{pmatrix} \begin{pmatrix} 0.0 \\ 1.0 \end{pmatrix} \text{ label}$$

$$\begin{pmatrix} \hat{y}_{\text{sig}} \\ \hat{y}_{\text{bg}} \end{pmatrix} \begin{pmatrix} 0.9 \\ 0.1 \end{pmatrix} \begin{pmatrix} 0.8 \\ 0.2 \end{pmatrix} \begin{pmatrix} 0.3 \\ 0.7 \end{pmatrix} \begin{pmatrix} 0.2 \\ 0.8 \end{pmatrix} \text{ prediction}$$

$$\frac{1}{2} \begin{pmatrix} \frac{1}{2} & \frac{1}{3} & \frac{1}{4} \end{pmatrix}$$

$$\frac{1}{2} \begin{pmatrix} \frac{1}{2} & \frac{1}{3} & \frac{1}{4} \end{pmatrix}$$

background

background

signal

signal