Variational inference

1. Select a family of distributions Q

Example: $\mathcal{N}(\mu, \begin{pmatrix} \sigma_1^2 & & 0 \\ & \sigma_2^2 & \\ 0 & & \ddots \\ & & & \sigma_d^2 \end{pmatrix})$

2. Find best approximation $q(z)$ of $p^*(z)$:

$$\mathcal{KL}\left[q(z) \parallel p^*(z)\right] \rightarrow \min_{q \in Q}$$