



The diagram illustrates the relationship between three quantities: KL divergence, log-likelihood, and loss. It features three horizontal lines: a red line at the top, a blue line in the middle, and a gray line at the bottom. A double-headed vertical arrow connects the red and blue lines, labeled $\text{KL}(q||p)$. Another double-headed vertical arrow connects the blue and gray lines, labeled $\mathcal{L}(q, \theta)$. A third double-headed vertical arrow connects the red and gray lines, labeled $\ln p(\mathbf{X}|\theta)$.

$$\text{KL}(q||p)$$

$$\mathcal{L}(q, \theta)$$

$$\ln p(\mathbf{X}|\theta)$$