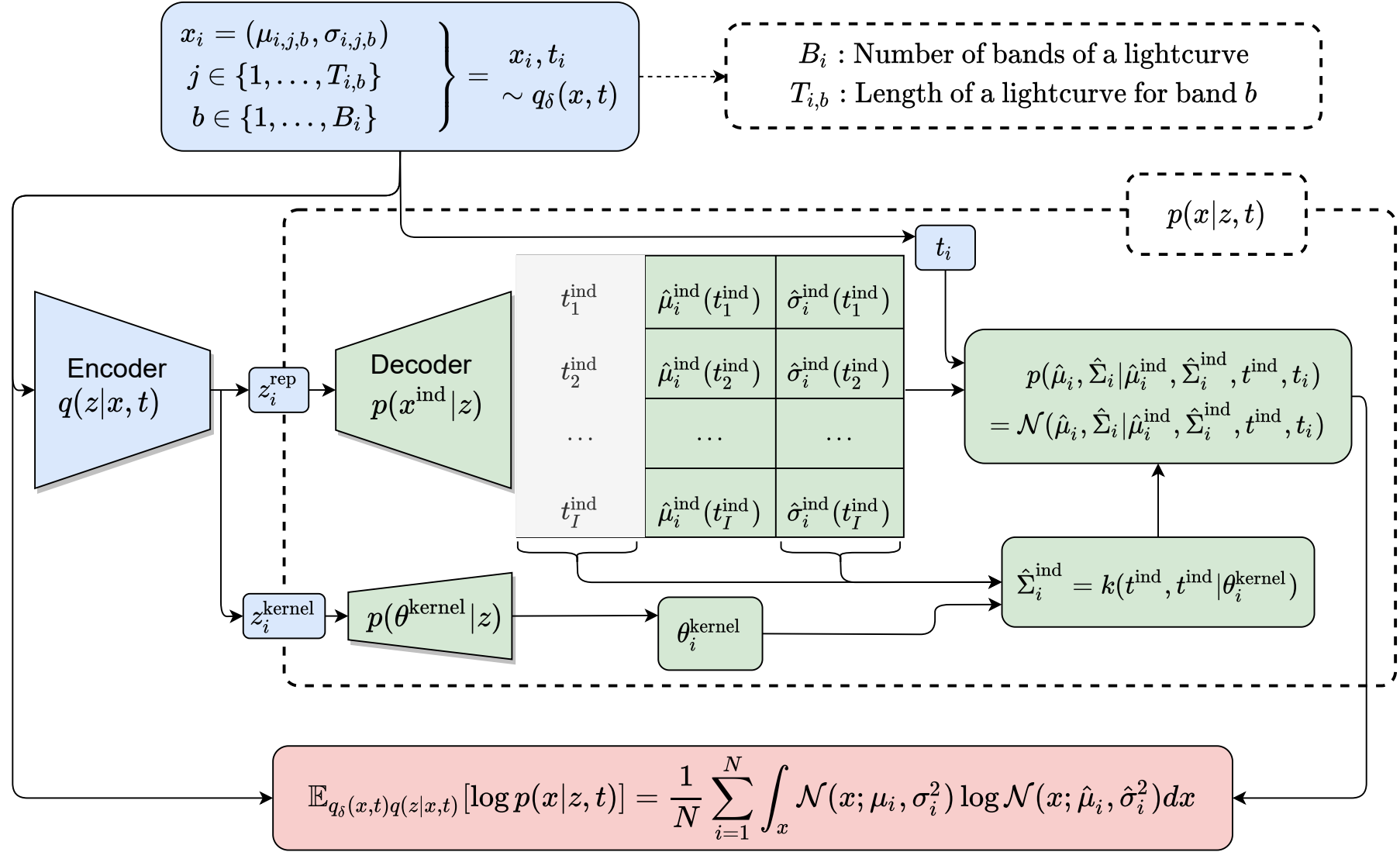
$x_i = (\mu_{i,j,b}, \sigma_{i,j,b})$
$j \in \{1, \ldots, T_{i,b}\}$
$b \in \{1, \ldots, B_i\}$
$= x_i, t_i \sim q_\delta(x, t)$
B_i : Number of bands of a lightcurve
$T_{i,b}$: Length of a lightcurve for band b
$p(x|z,t)$
t_i
Encoder
$q(z|x,t)$
z_i^{rep}
Decoder
$p(x^{\text{ind}}|z)$
t_1^{ind} $\hat{\mu}_i^{\text{ind}}(t_1^{\text{ind}})$ $\hat{\sigma}_i^{\text{ind}}(t_1^{\text{ind}})$
t_2^{ind} $\hat{\mu}_i^{\text{ind}}(t_2^{\text{ind}})$ $\hat{\sigma}_i^{\text{ind}}(t_2^{\text{ind}})$
$\ldots$ $\ldots$ $\ldots$
t_I^{ind} $\hat{\mu}_i^{\text{ind}}(t_I^{\text{ind}})$ $\hat{\sigma}_i^{\text{ind}}(t_I^{\text{ind}})$
$p(\hat{\mu}_i, \hat{\Sigma}_i|\hat{\mu}_i^{\text{ind}}, \hat{\Sigma}_i^{\text{ind}}, t^{\text{ind}}, t_i)$
$= \mathcal{N}(\hat{\mu}_i, \hat{\Sigma}_i|\hat{\mu}_i^{\text{ind}}, \hat{\Sigma}_i^{\text{ind}}, t^{\text{ind}}, t_i)$
z_i^{kernel}
$p(\theta^{\text{kernel}}|z)$
θ_i^{kernel}
$\hat{\Sigma}_i^{\text{ind}} = k(t^{\text{ind}}, t^{\text{ind}}|\theta_i^{\text{kernel}})$
$\mathbb{E}_{q_\delta(x,t)q(z|x,t)}[\log p(x|z,t)] = \frac{1}{N}\sum_{i=1}^{N}\int_x \mathcal{N}(x;\mu_i,\sigma_i^2)\log\mathcal{N}(x;\hat{\mu}_i,\hat{\sigma}_i^2)dx$