Iterate: On the *t*'th iteration let our estimates be

$$\theta_t = \{ \mu_1^{(t)}, \mu_2^{(t)} \dots \mu_k^{(t)} \}$$

E-step

Compute "expected" classes of all datapoints

$$p(y = i | x^j; \theta_t) \propto \exp\left(-\frac{1}{2\sigma^2} (x^j - \mu_i)^2 \right)$$

M-step

Compute most likely new **μ**s given class expectations, by doing weighted ML estimates:

$$\mu_i = \frac{\sum_{j=1}^{m} p(y = i | x^j; \theta_t) x^j}{\sum_{j=1}^{m} p(y = i | x^j; \theta_t)}$$