

The evidence, also known as the marginal density,  $p(\mathbf{x})$ , can be rewritten as:

$$p(\mathbf{x}) = \int_{\Omega} p(\mathbf{x}, \mathbf{z}) d^m \mathbf{z} = \int_{\Omega} p(\mathbf{x}|\mathbf{z})p(\mathbf{z}) d^m \mathbf{z} \quad (1)$$