

$$p(e_i, a_i \mid \mathbf{f}, m) = \frac{1}{1+n} p(e_i \mid f_{a_i})$$

$$p(e_i \mid \mathbf{f}, m) = \sum_{a_i=0}^n \frac{1}{1+n} p(e_i \mid f_{a_i})$$