## Particle filter

t = 1

Normalise weights

$$W_{1}^{(k)} = \frac{w_{1}^{(k)}}{\sum_{k'} w_{1}^{(k')}}$$

$$\begin{pmatrix} \mathbf{x}_{1}^{(1)} \end{pmatrix} \qquad \begin{pmatrix} \mathbf{x}_{1}^{(2)} \end{pmatrix} \qquad \begin{pmatrix} \mathbf{x}_{1}^{(3)} \end{pmatrix} \qquad \begin{pmatrix} \mathbf{x}_{1}^{(4)} \end{pmatrix}$$

$$0 \qquad 2 \qquad 2 \qquad 0 \qquad 1$$