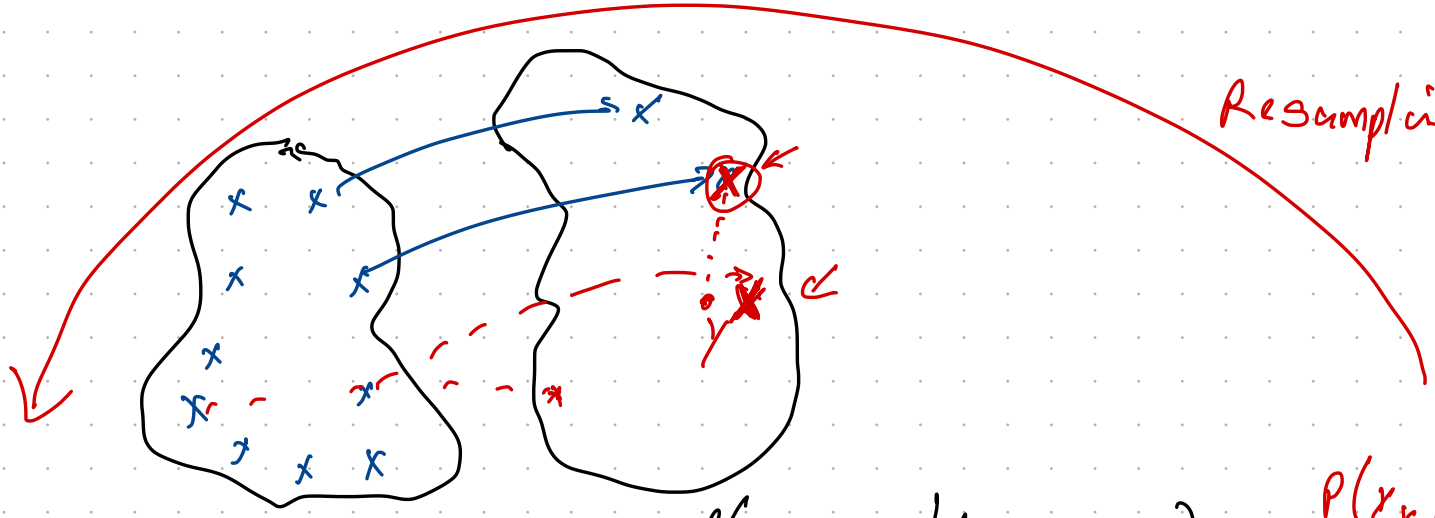


$p(x_{k|k} | y_1 \dots y_k)$

$p(x_{k+1|k} | y_1 - y_k)$

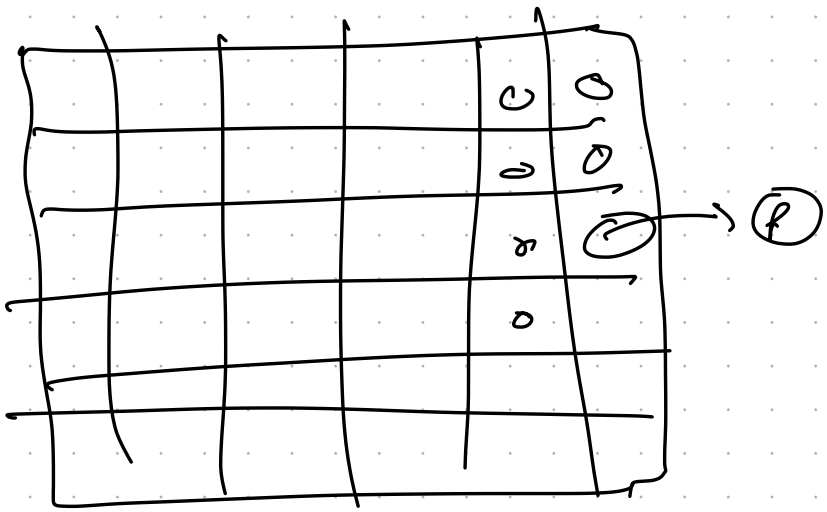
$f(x_k, v_k) + \varepsilon_k$

$p(x_{k+1})$

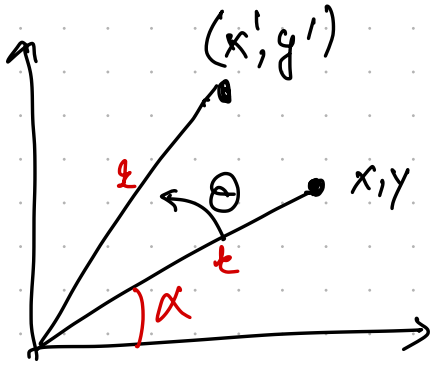
$x_{k+1|k+1}$

$w_{k+1|k+1}$

$y_n = w_{k|k} = w_{k+1|k}$



Occupancy grid map



$$(x', y') = f(x, y)$$

$$\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} r\cos\alpha \\ r\sin\alpha \end{pmatrix}$$

$$\begin{pmatrix} x' \\ y' \end{pmatrix} = \begin{pmatrix} r(\cos(\alpha+\theta)) \\ r\sin(\alpha+\theta) \end{pmatrix} = \begin{pmatrix} r\cos\alpha\cos\theta - r\sin\alpha\sin\theta \\ r\sin\alpha\sin\theta + r\cos\alpha\cos\theta \end{pmatrix}$$

$$= \begin{pmatrix} x\cos\theta - y\sin\theta \\ y\sin\theta + x\cos\theta \end{pmatrix}$$