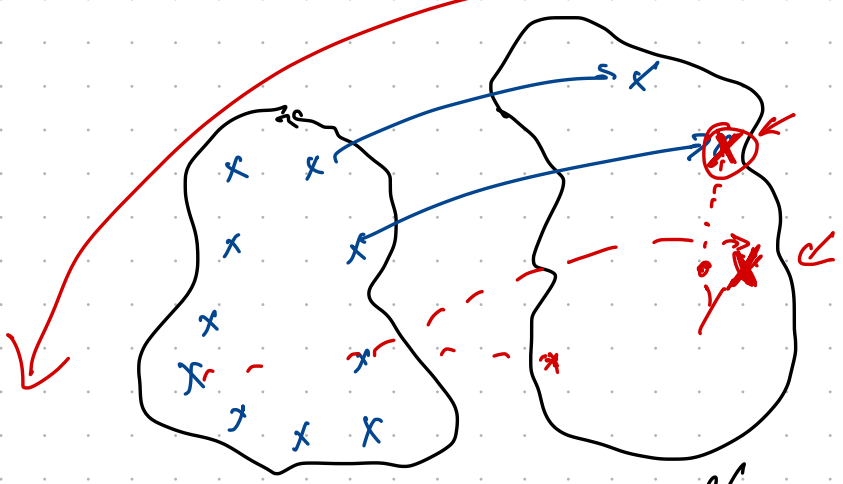


Resampling



$$P(x_{k+1} | y_1, \dots, y_k)$$

$$P(x_{k+1} | y_1, \dots, y_k)$$

$$P(x_{k+1})$$

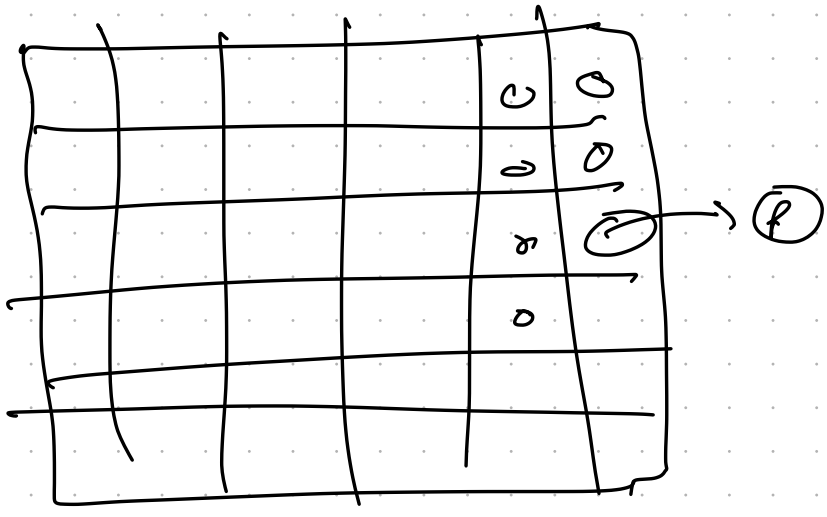
$$f(x_k, u_k) + \epsilon_k$$

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

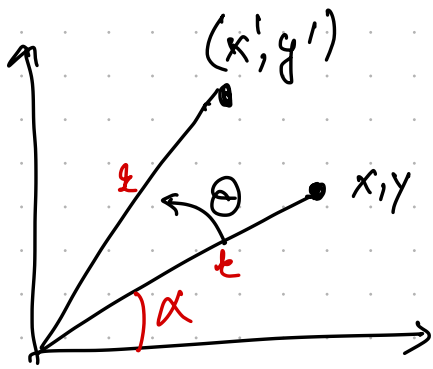
$$w_n = w_{k+1}$$

$$= \omega_{k+1} | k$$

$$\omega_{k+1} | k+1$$



Occupancy grid map



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

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

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

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