

Initial
State

$$\mathbf{x}_0$$
$$\hat{\delta x}_0$$
$$P_0$$

The Prediction Step

$$\hat{\delta x} \leftarrow F_x(x, u_m) \cdot \hat{\delta x}$$
$$P \leftarrow F_x P F_x^\top + F_i Q_i F_i^\top$$

$$k \leftarrow k+1$$

The Update Step

$$K = P H^\top (H P H^\top + V)^{-1}$$
$$\hat{\delta x} \leftarrow K(y - h(\hat{x}_t))$$
$$P \leftarrow (I - K H) P (I - K H)^\top + K V K^\top$$