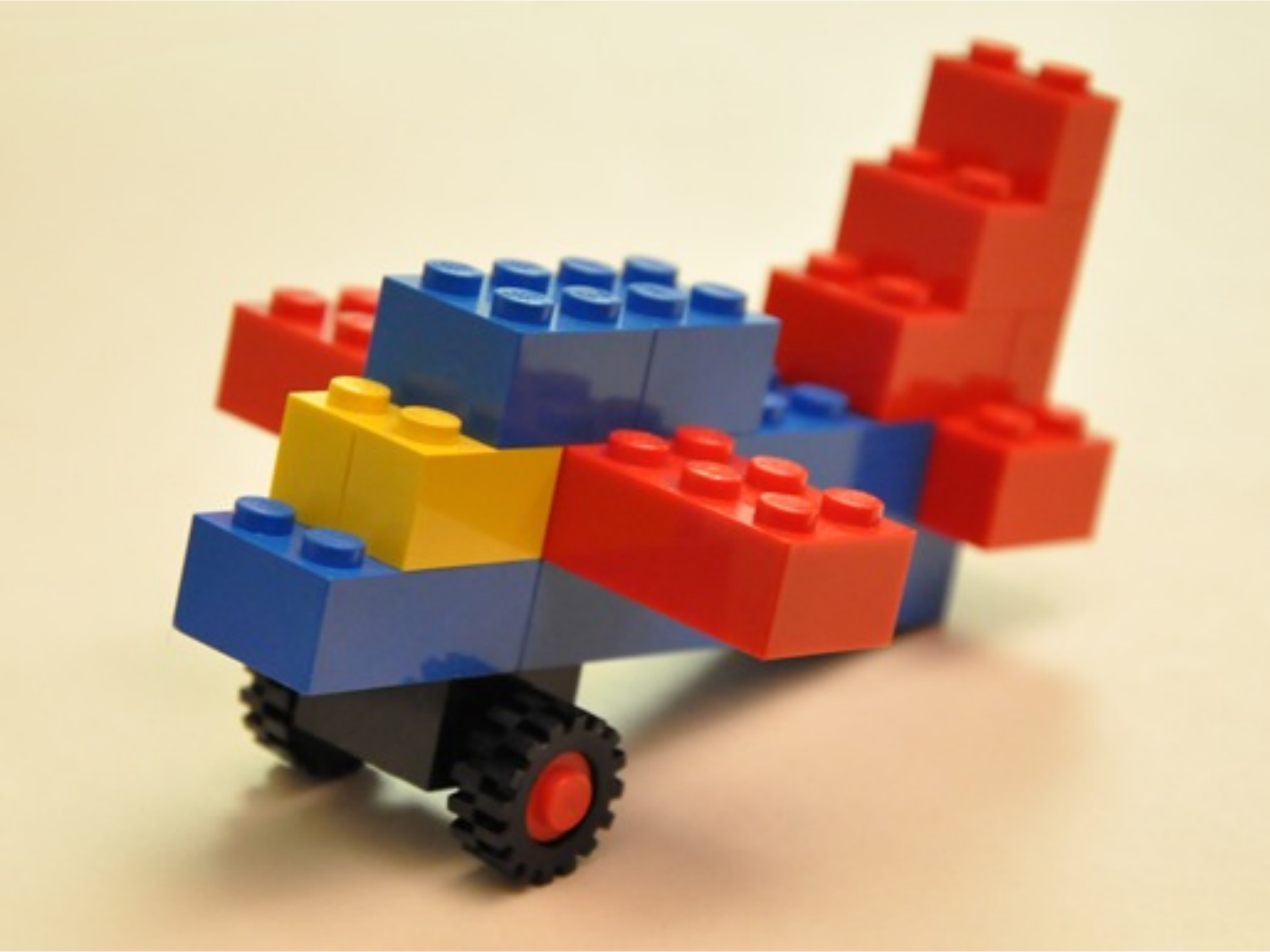

PACIFIC GLORY


SATURN

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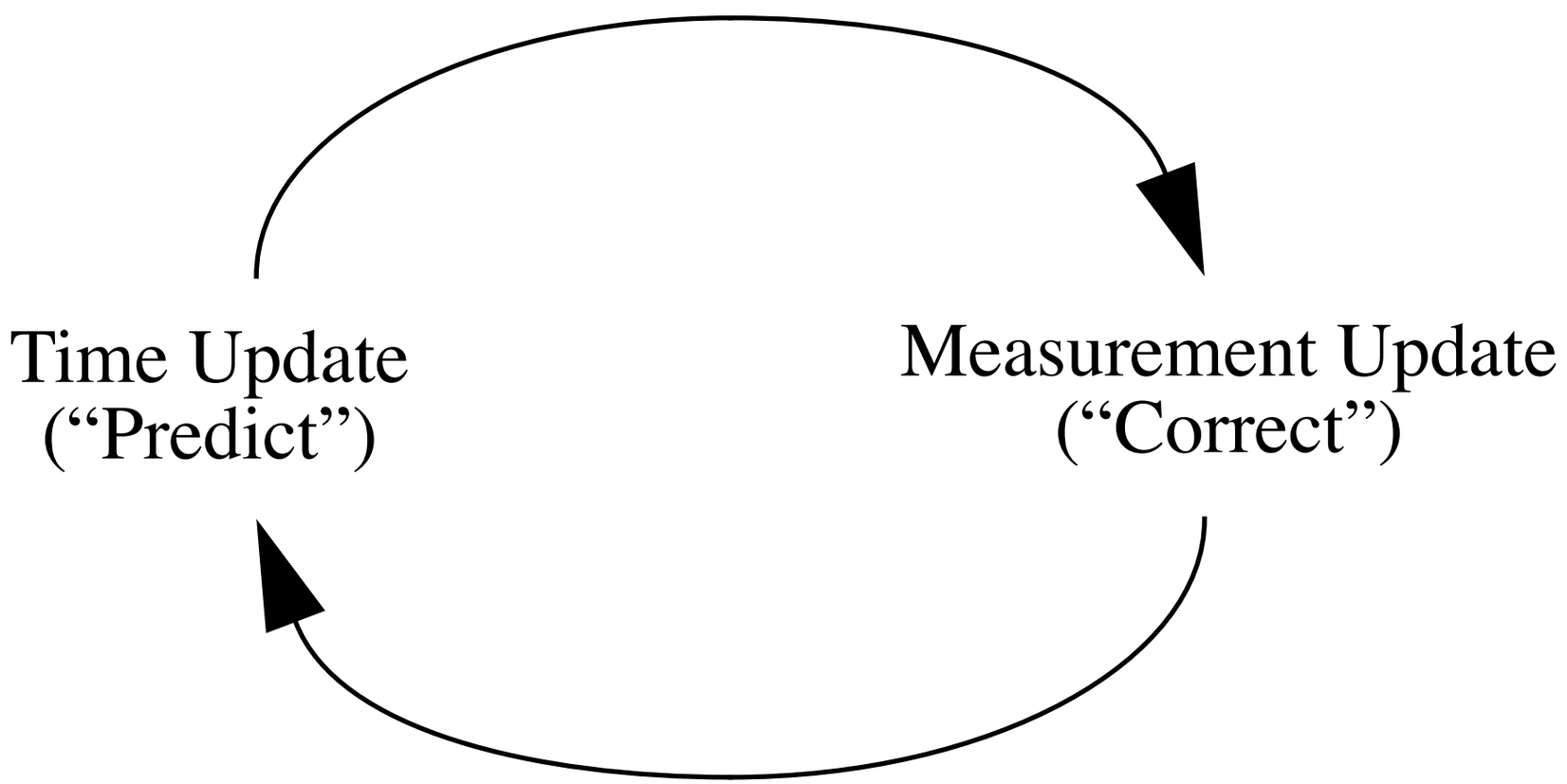
- Dynamics model

$$\dot{x} = Fx + Gu$$

- Measurement model

$$z = Hx + v$$


Time Update
(“Predict”)
Measurement Update
(“Correct”)

- Time update (Predict)

$$\tilde{x}_k = \phi_{k-1}\hat{x}_{k-1}$$
$$\tilde{P}_k = \phi_{k-1}\hat{P}_{k-1}\phi_{k-1}^T + Q_{k-1}$$

- Measurement update (Correct)

$$K_k = \tilde{P}_k H_k^T (H_k \tilde{P}_k H_k^T + R_k)^{-1}$$
$$\hat{x}_k = \tilde{x}_k + K_k(z_k - H_k\tilde{x}_k)$$
$$\hat{P}_k = (I - K_k H_k)\tilde{P}_k$$