PREPARACIÓN

FORWARD

LOSS

OPTIMIZER

EPOCH

BATCH

FORWARD

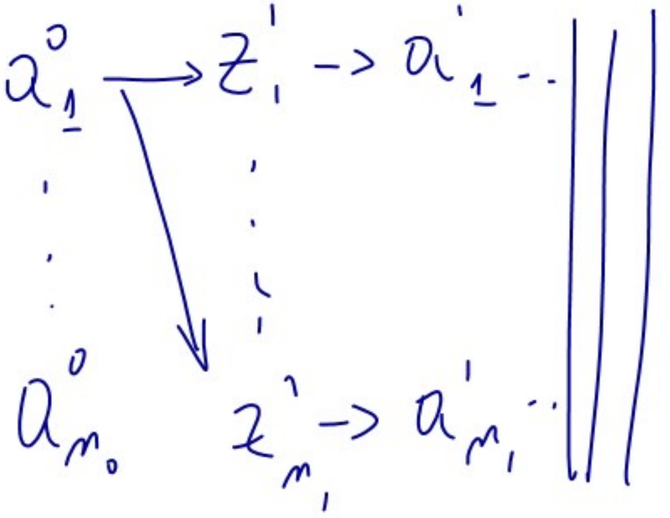
LOSS

LOSS.BACKWARD()

OPTIMIZER.STEP()

TEST

REPORTES



- CONVOLUCIONES (FILTROS)
- RNN (RECURSIVE N.N.)
- ENTRENAMIENTO POR REFORZAMIENTO

LANGCHAIN

① CONVOLUCIONES:

$$(f * g)(t) = \int_{-\infty}^{\infty} f(\varepsilon)\, g(t-\varepsilon)\, d\varepsilon$$

↗ KERNEL

X_1 X_2 X_3 X_4 X_5 X_6

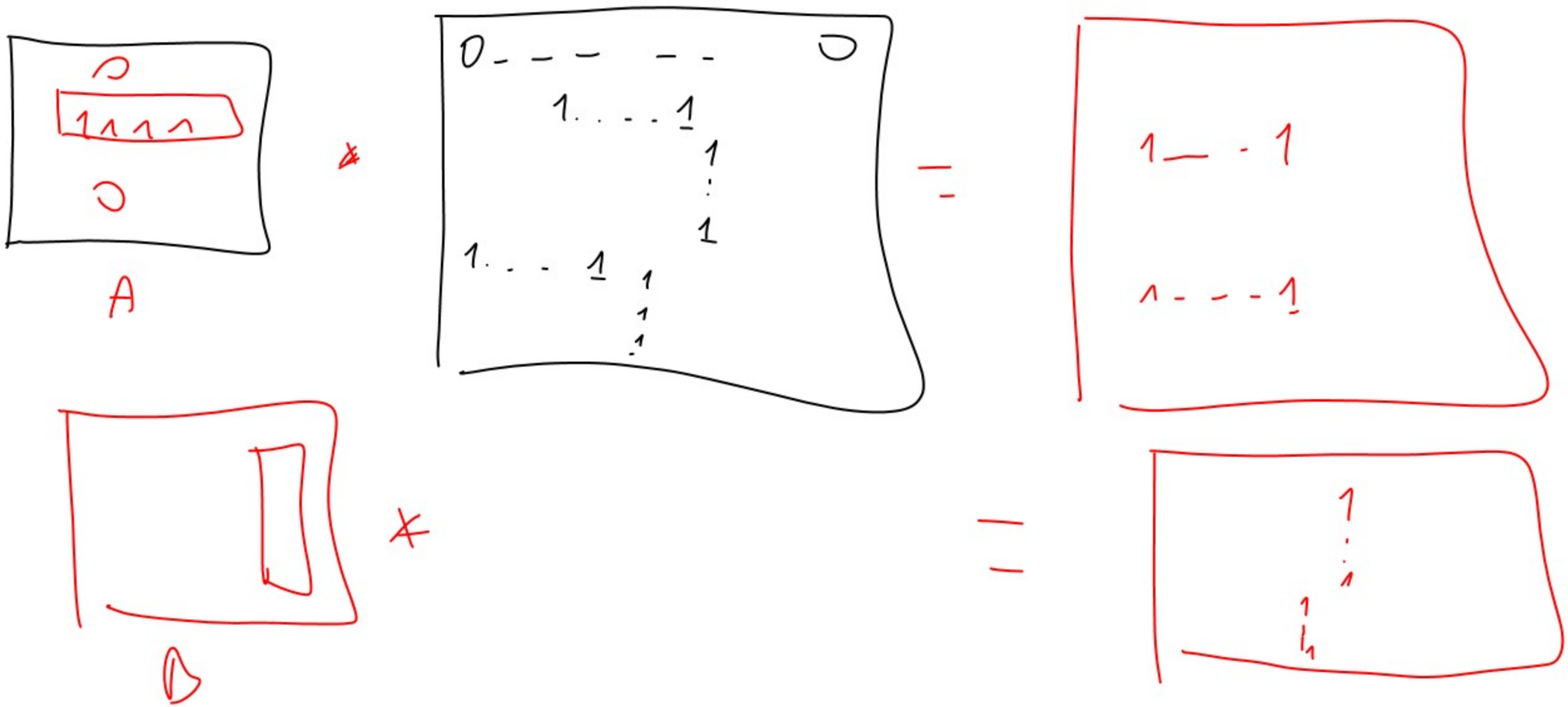
$\frac{1}{4}X_1$ $\frac{1}{4}X_2$

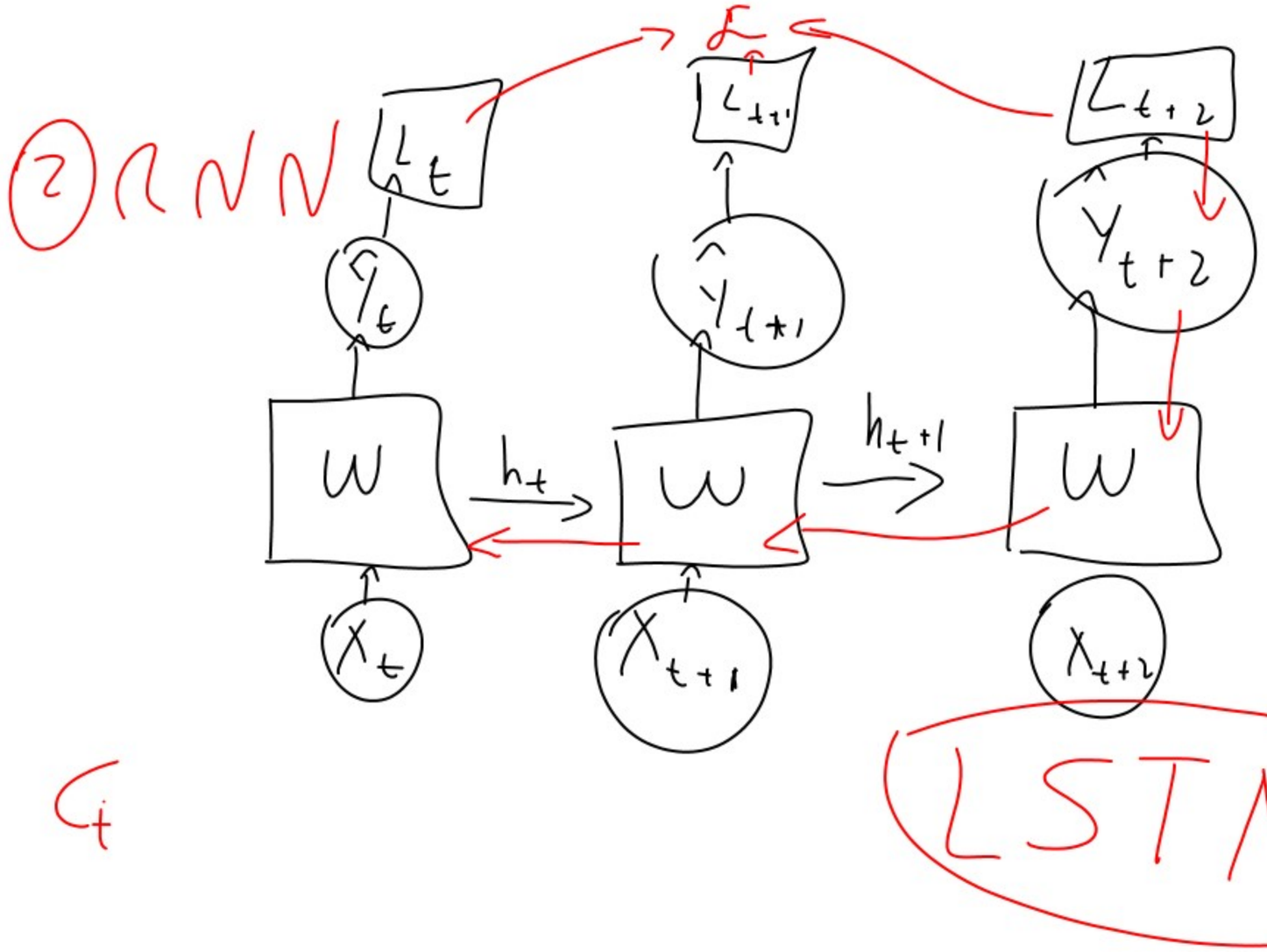
$+\frac{1}{2}X_2$ $+\frac{1}{2}X_3$

$+\frac{1}{4}X_3$ $+\frac{1}{4}X_4$

KALMAN

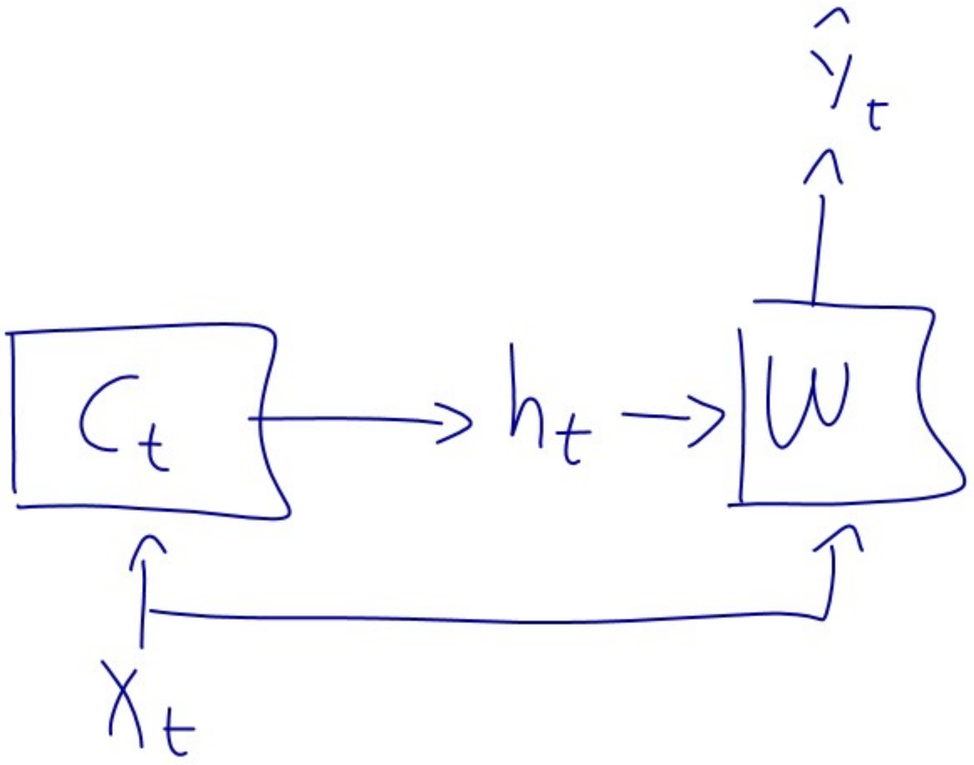
H-P


A
B



$$\mathcal{L} = \sum_t (\hat{y}_t - y_t)^2$$

C_t



$$i_t = f(X_t W_i + h_{t-1} U_i + b_i)$$

$$C_t = i_t \odot \tilde{C}_t + \nu_t \odot C_{t-1}$$

$$\nu_t = f(X_t W_\nu + h_{t-1} U_\nu + b_\nu)$$

$\varepsilon_t \qquad E(\varepsilon_t) = 0 \qquad \sigma_t = \sigma$

$cov(\varepsilon_t, \varepsilon_{t+h}) = 0 \qquad \forall h \neq 0$

WOLD

$$\varepsilon_t \longrightarrow MA(q) = \sum_{i=1}^{q} \alpha_i \varepsilon_{t-i}$$

$$\varepsilon_t \longrightarrow AR(p) = \sum_{j=1}^{p} \beta_j X_{t-j}$$

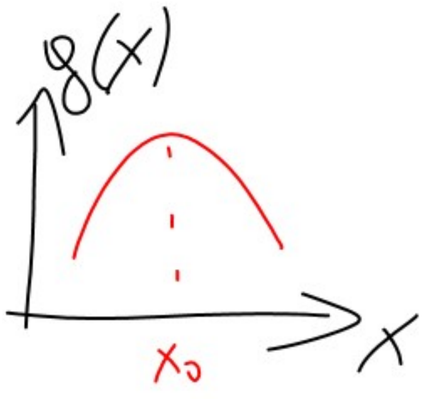
$$X_t = \varepsilon_t + MA(q) + AR(p)$$

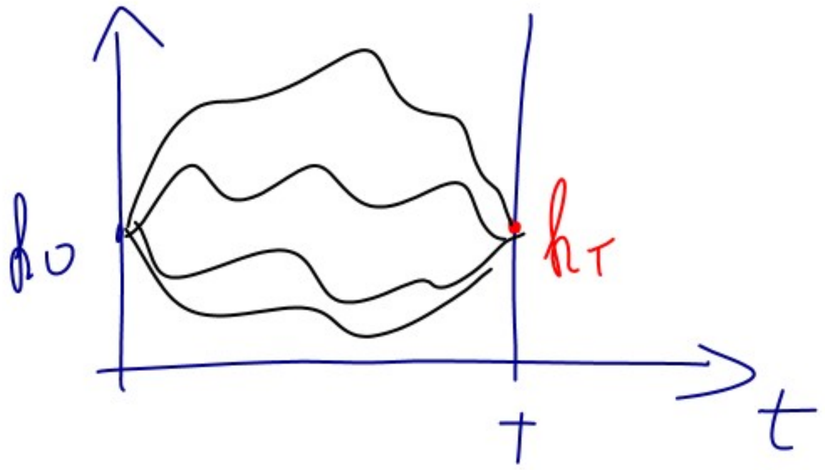
$$f(k_t) \longrightarrow I_t \longrightarrow k_{t+1} = k_t + I_t \rightarrow f(k_{t+1})$$

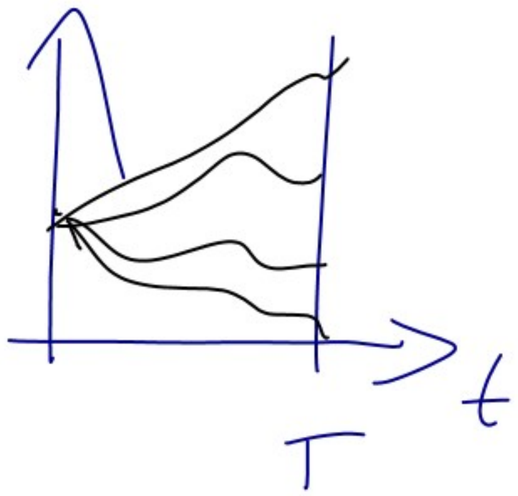
$$\searrow \; C_t \rightarrow u(C_t)$$

$$f(k_t) = I_t + C_t$$

$$\max_{\{C_t\}} \sum_{t=0}^{T} \delta^t u(C_t)$$







$F(\theta_t)$ = DESEMPLEO

$$\max_{\{C_t\}} \sum \delta^t u(C_t)$$

s.a. $f(h_t) = C_t + I_t$

$$I_t + h_t = h_{t+1}$$