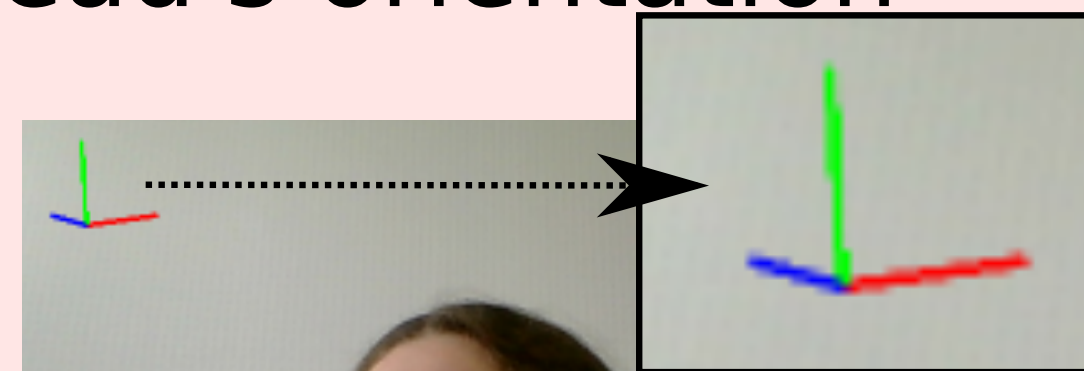
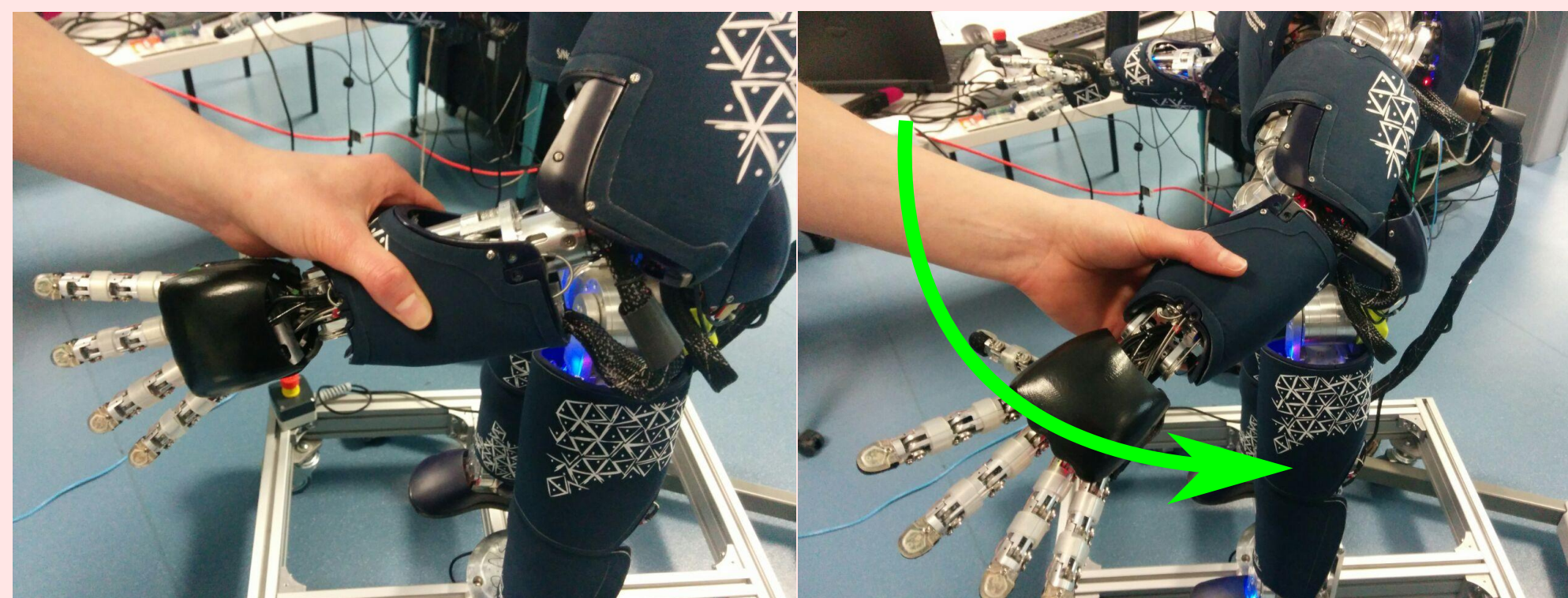


Training
the k-th
trajectory

head's orientation



Partner's guidance



N demonstrations of the whole trajectory

$h_k =$

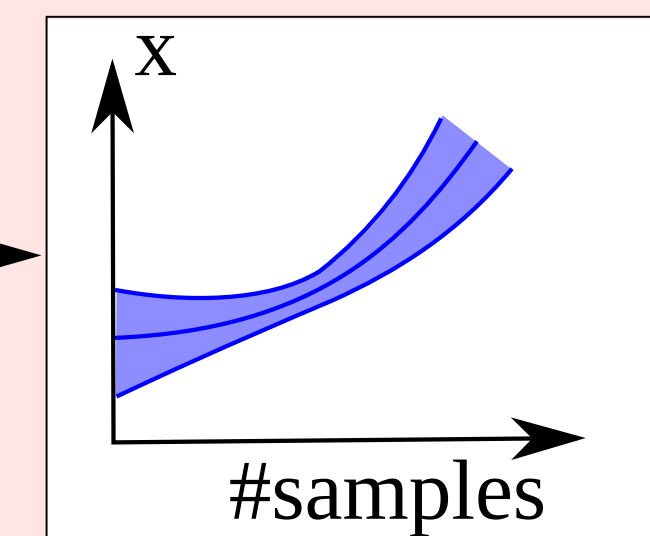
$[\alpha \ \beta \ \gamma]$

Model learning

$$\Phi_t \begin{bmatrix} \omega_X \\ \omega_H \end{bmatrix} + \epsilon_{X,H}$$

prior distribution

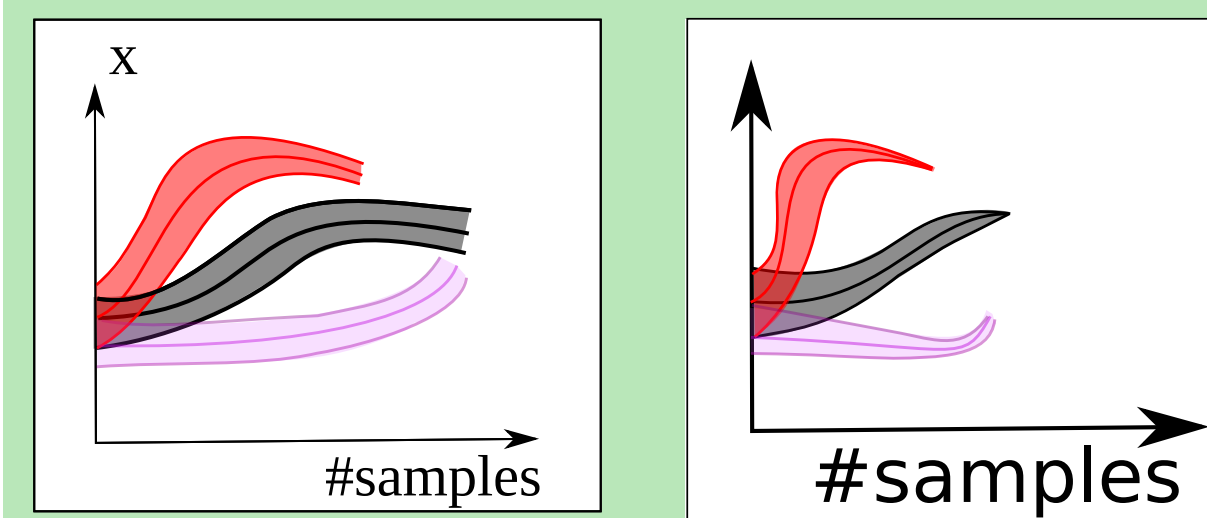
k-th ProMP



computing $\omega_k \sim \mathcal{N}(\mu_\omega, \Sigma_\omega)$

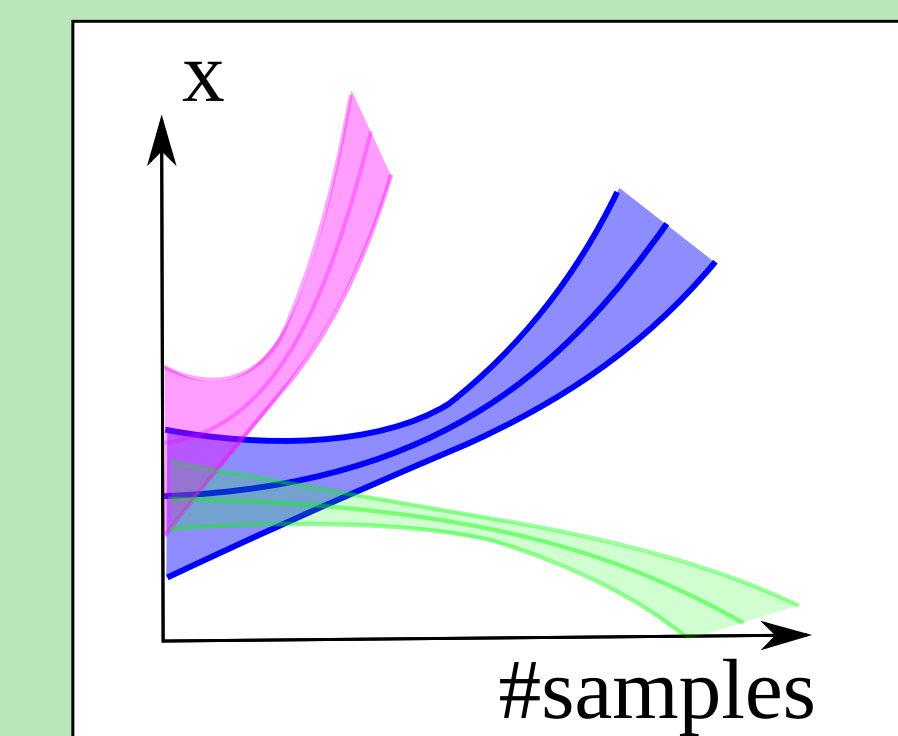
x

Learned ProMPs



visual dimension

Inference

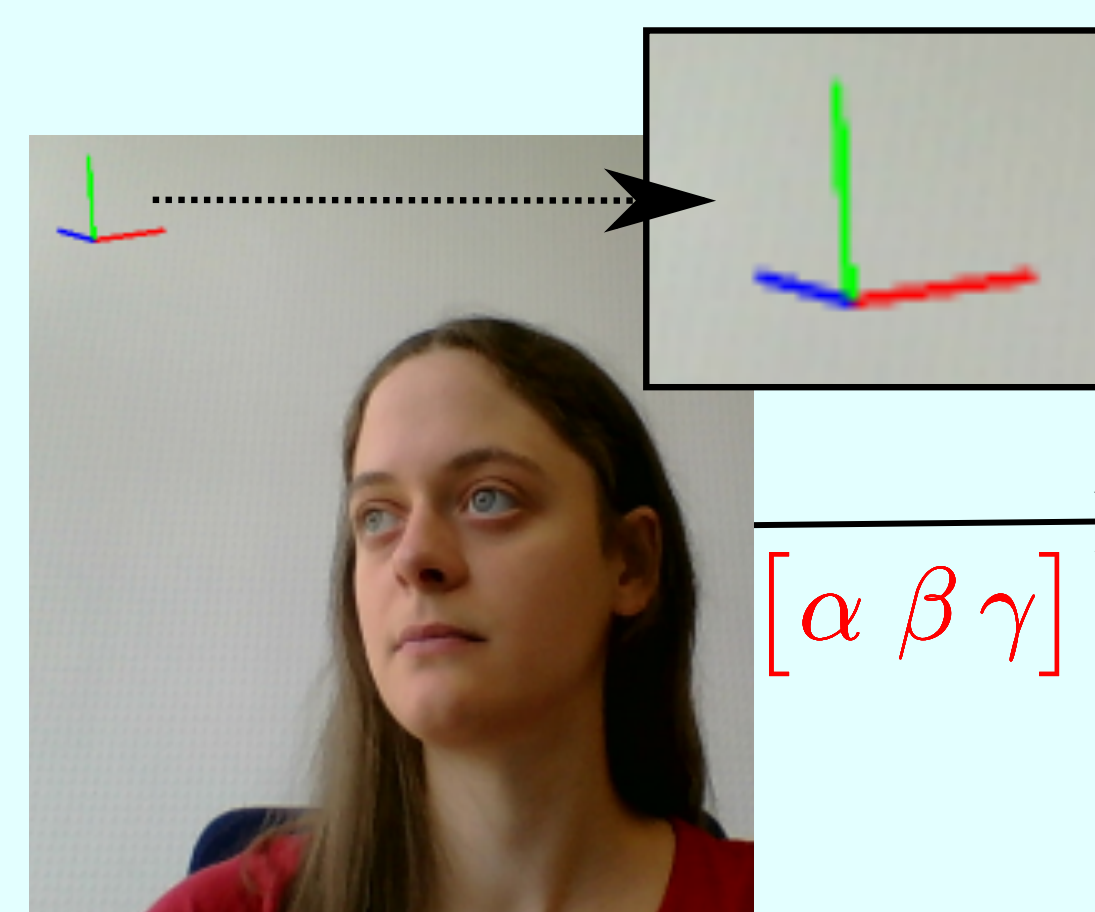


kinetics dimension

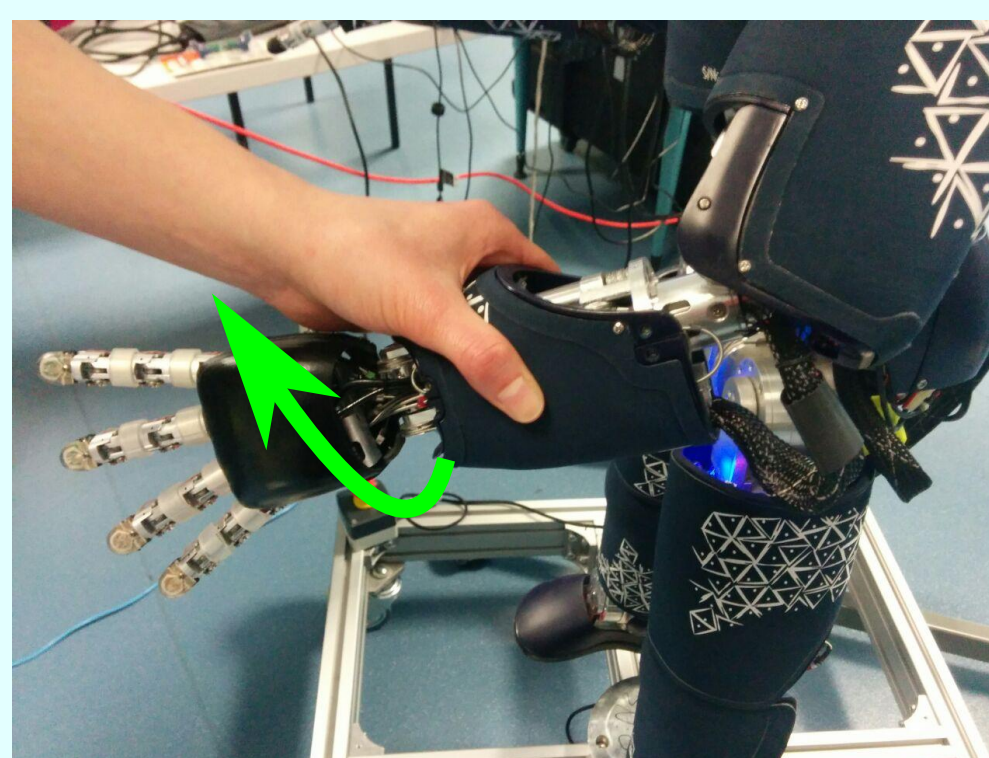
guidance

identification & Model update

Action



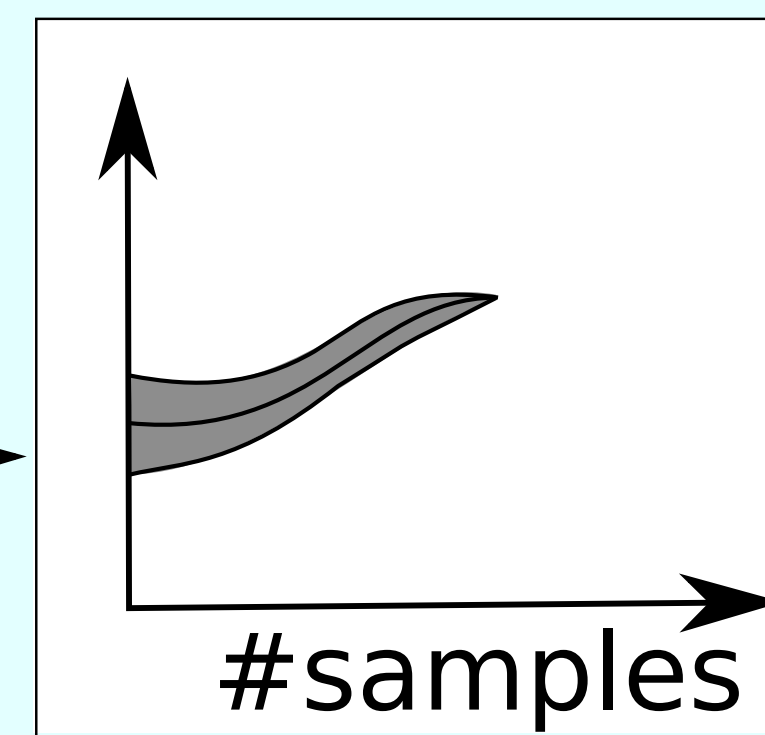
visual



physical

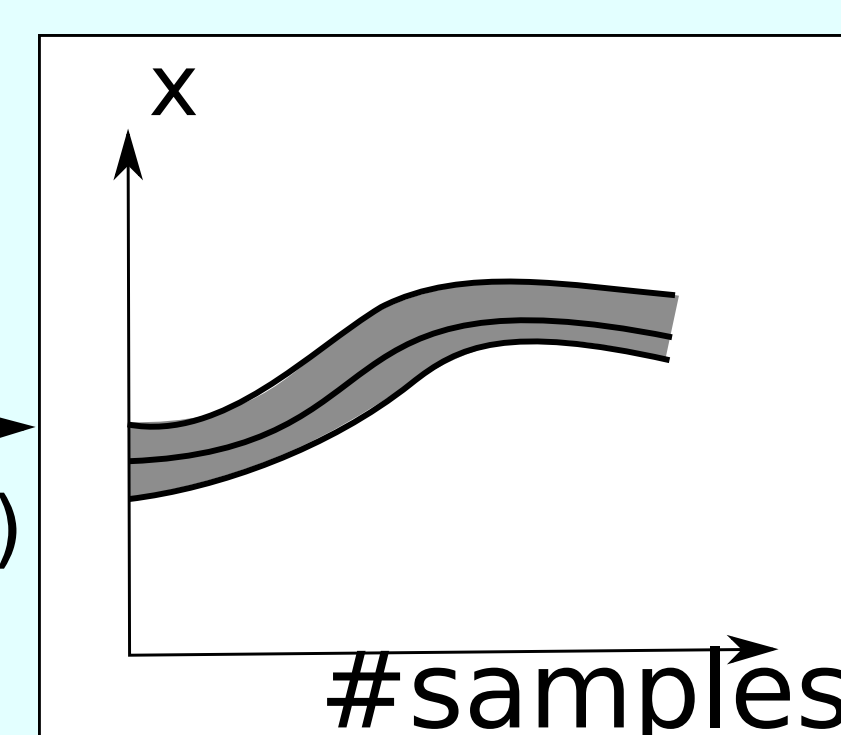
$[\alpha \ \beta \ \gamma]$

ω_{h-k}



$(\hat{\omega}, \omega_{h-k})$

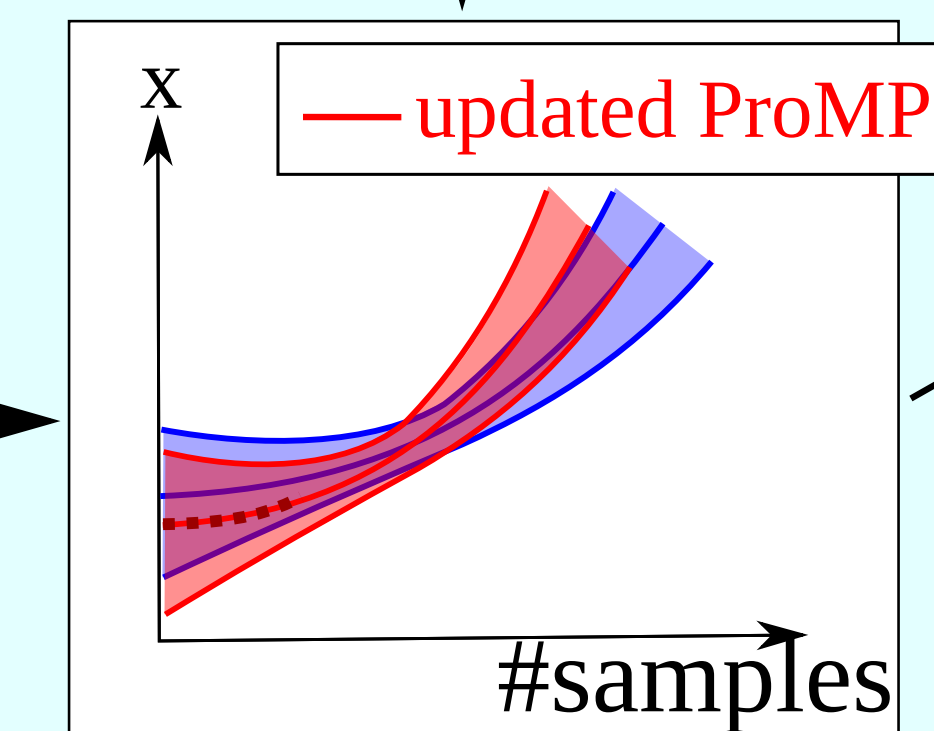
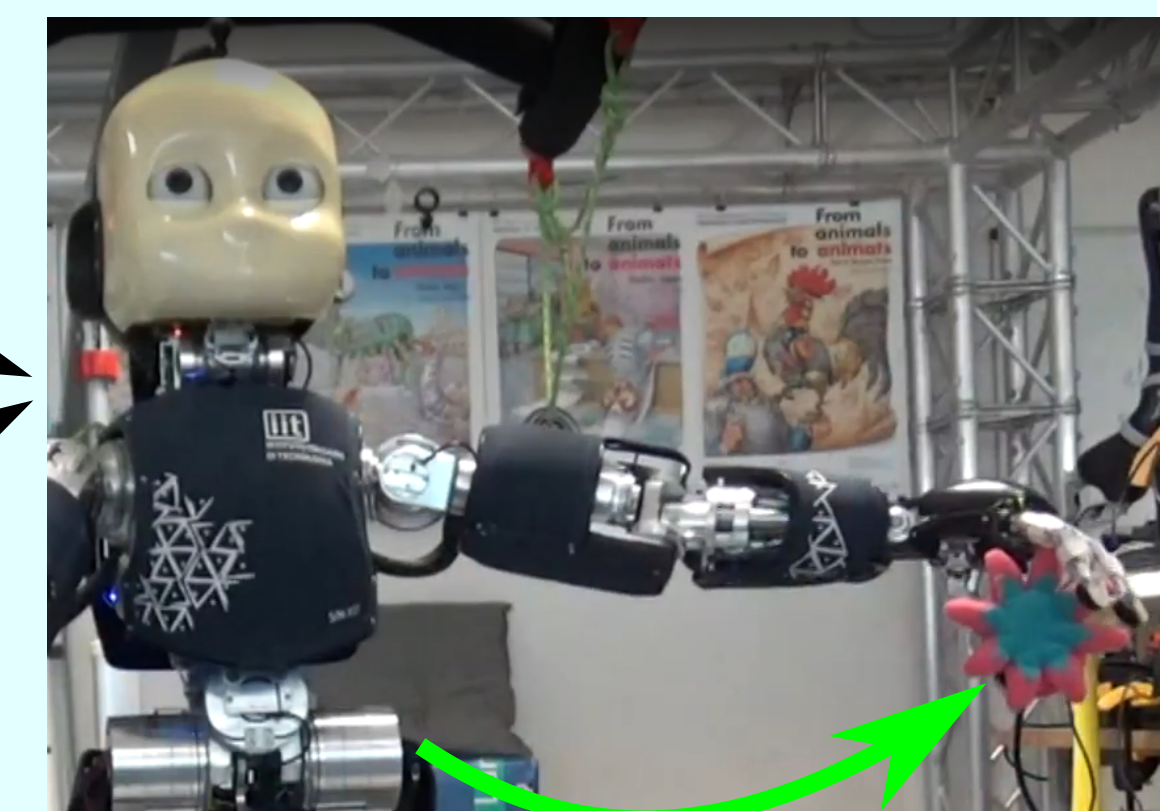
$\hat{\omega}$



ProMP identification (PRIOR)

\hat{X}

\hat{X}



computing $\hat{\omega} \sim \mathcal{N}(\hat{\mu}_\omega, \hat{\Sigma}_\omega)$

X^o

— updated ProMP