





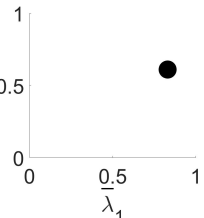


TASKS	
HUMAN	ROBOT
$\gamma_1$ 	
$\gamma_2$ 	
$\vdots$	$\vdots$
$\gamma_N$ 	

incoming task  $\gamma$

task requirements  $\bar{\lambda}$



update agent capabilities

human capabilities  $bel(\lambda^H)$

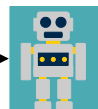
robot capabilities  $bel(\lambda^R)$

compute agent trust

trust in human  $\tau_\gamma^H$



trust in robot  $\tau_\gamma^R$



compute expected total reward

compute task reward and agent costs

human expected total reward  $\mathbb{E}_\gamma^H$

robot expected total reward  $\mathbb{E}_\gamma^R$

If  $\mathbb{E}_\gamma^R > \mathbb{E}_\gamma^H$ :

allocate task to robot

If  $\mathbb{E}_\gamma^H > \mathbb{E}_\gamma^R$ :

allocate task to human

observe task outcome

success

failure

outcome