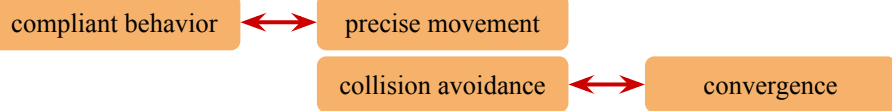


Conflicting
Requirements

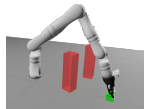


Heterogeneous
Tasks

open the door



safe moving



balance



Customizing
Representations and
Control Strategies

LLM as a
control expert

Meta-Control

hierarchical
control system

Hyper-parameter
 θ

desired stiffness

safe distance

neutral position

Task Space

gripper position

MPC for an
inaccurate trajectory

object position

MPC for discrete
time safe trajectory

cart pos. & vel.,
pole angle & vel.

LQR for
cart force

Tracking Space

target joint state,
joint forces

compliance control

target joint state,
distance to obstacles

continuous time
QP-based safe filter

target cart force

hybrid force pos.
controller

