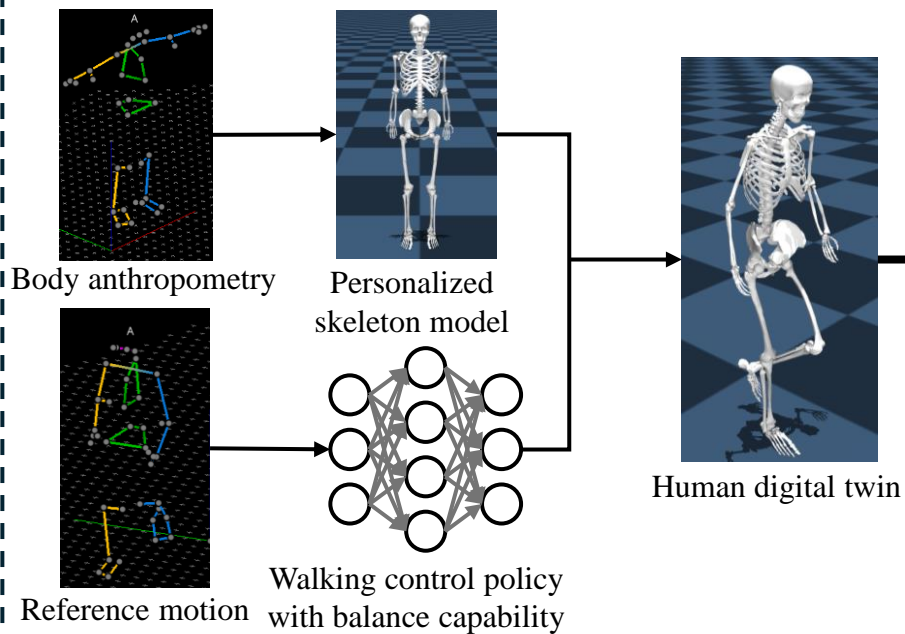
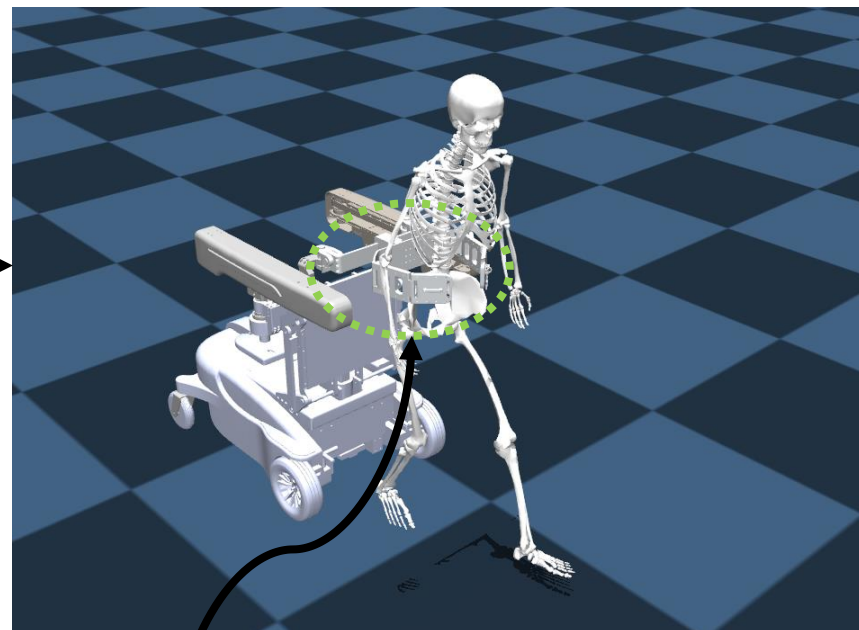


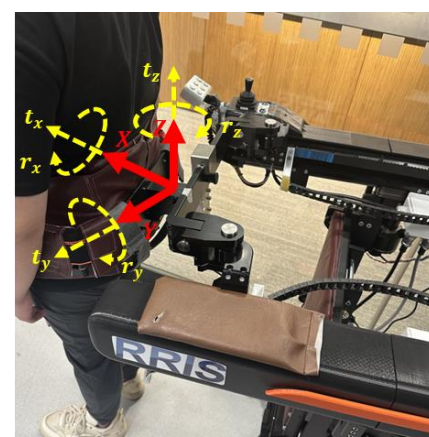
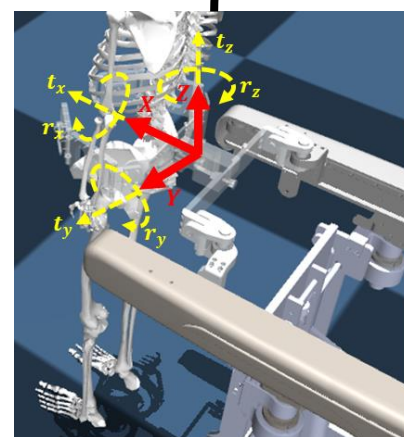
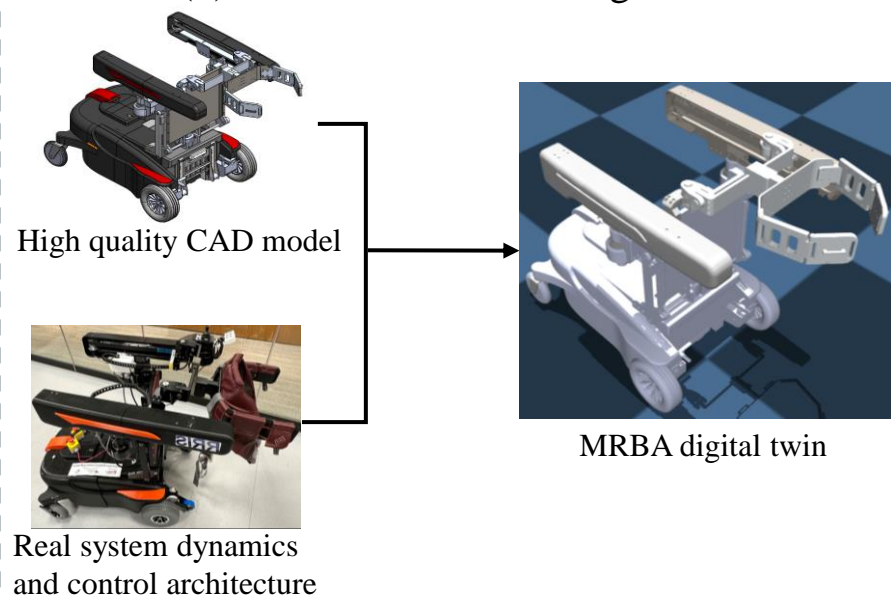
### (a) Creation of human digital twin



### Human-in-the-Loop simulation



### (b) Creation of MRBA digital twin



Constrained 6-DoF mass  
spring damper

Robotic arm with soft harness

### (c) Design of human-robot interaction model