

Robot Fanuc LR Mate 200iC

Reference:

1. Fanuc page
https://www.fanucamerica.com/cmsmedia/datasheets/LR%20Mate%20200iC%20Series_10.pdf
2. DH table and schematic:
https://researchgate.net/publication/269270372_Study_and_validation_of_singularities_f_or_a_Fanuc_LR_Mate_200iC_robot
3. URDF:<https://github.com/sezan92/Fanuc>

Application:

1. Run Demo4.m in main
2. Enter Valid Positions XYZ, Rotation PYR, and Mass Load
3. Click Sim to start simulation
4. When Sim is clicked, the new input will not be accepted until the movement is finished (fixed time, including gravitational compensation calculation)
5. Use clear plots when needed (backup function for preventing data overflow)

Note:

1. Invalid position values will be set to home configuration
2. Invalid mass load will be set to 0
3. Invalid rotation values will not be considered during inverse kinematics calculation, analytical jacobians would be used to calculate inverse kinematics.

Sample Inputs to try:

	PositionX	PositionY	PositionZ	Pitch	Yaw	Roll	Load
Trial 1	Nah	Nah	Nah	Nah	Nah	Nah	Nah/0
Trial 2	Nah	Nah	Nah	Nah	Nah	Nah	10
Trial 3	0.5	0.5	0.5	Nah	Nah	Nah	Nah/0
Trial 4	Nah	Nah	Nah	0	0	0	Nah/0
Trial 5	0.3	0.3	0.3	0	0	0	10
Trial 6	5	5	5	Nah	Nah	Nah	Nah/00

Note:

1. Trial 1&2 is gravity compensation, Trial 6 out of reach situation
2. For Nah, type Nah in the textbox or leave the textbox the original text (cannot be number 0)
3. IK maynot be solved, needs more time to work on it.