RoboAnalyser 2021

ROC CONDUCTED BY DR. NAYAN M. KAKOTY OF TEZPUR UNIVERSITY IN COLLABORATION WITH S K SAHA, IIT DELHI AND RAJEEVLOCHAN C. G. OF AMRITA UNIVERSITY, BENGALURU, DURING MAY 1,2021 TO JULY 11,2021.

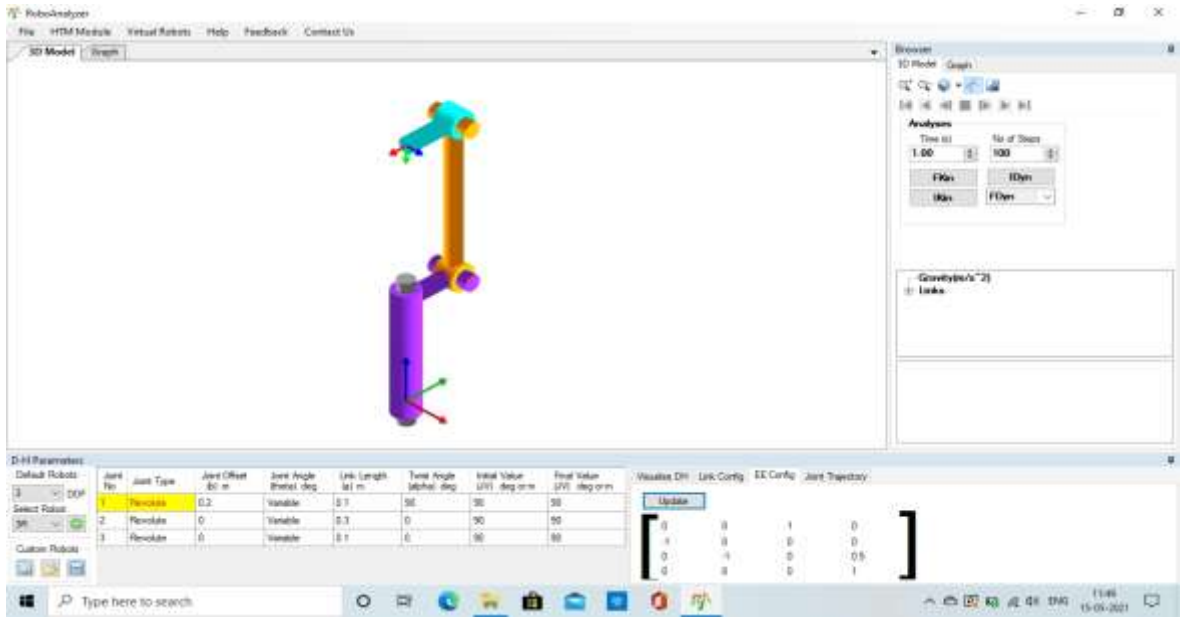
Team B3 members:

- DHANAVATH PRAVEEN NAIK (Coordinator).

- “No matter how may people are working, just show how you are working..”

Denavit and hartenberg (DH) parameters

- A robot manipulator consists of several links connected by, usually, single degree of freedom joints, say, a revolute or a prismatic joint. In order to control the end-effector w.r.t base, it is necessary to find the relation between the co-ordinate frames attached to the end-effector and the base.



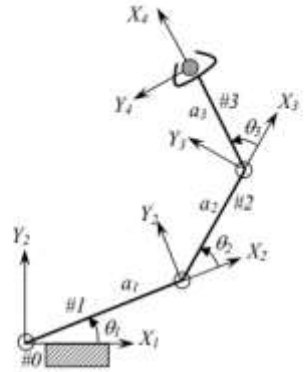


Figure 5.24 A three-link planar arm

Table 5.2 DH parameters of the three-link arm

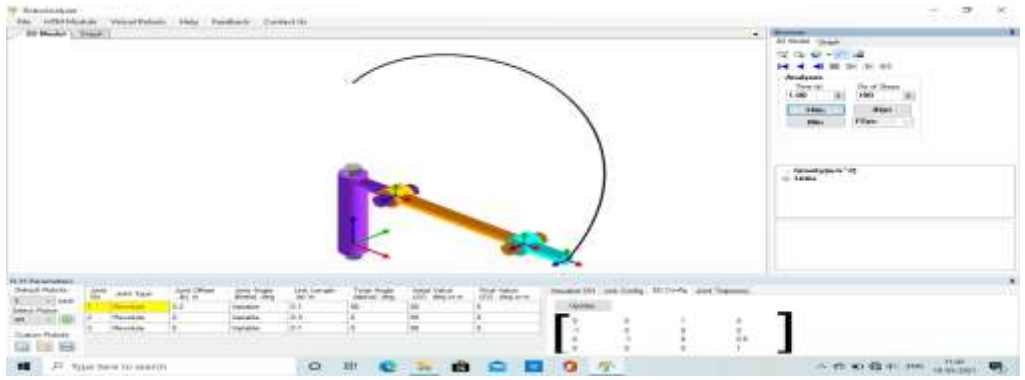
Link	b_i	θ_i	a_i	α_i
1	0	θ_1 (JV)	a_1	0
2	0	θ_2 (JV)	a_2	0
3	0	θ_3 (JV)	a_3	0

JV: Joint Variable

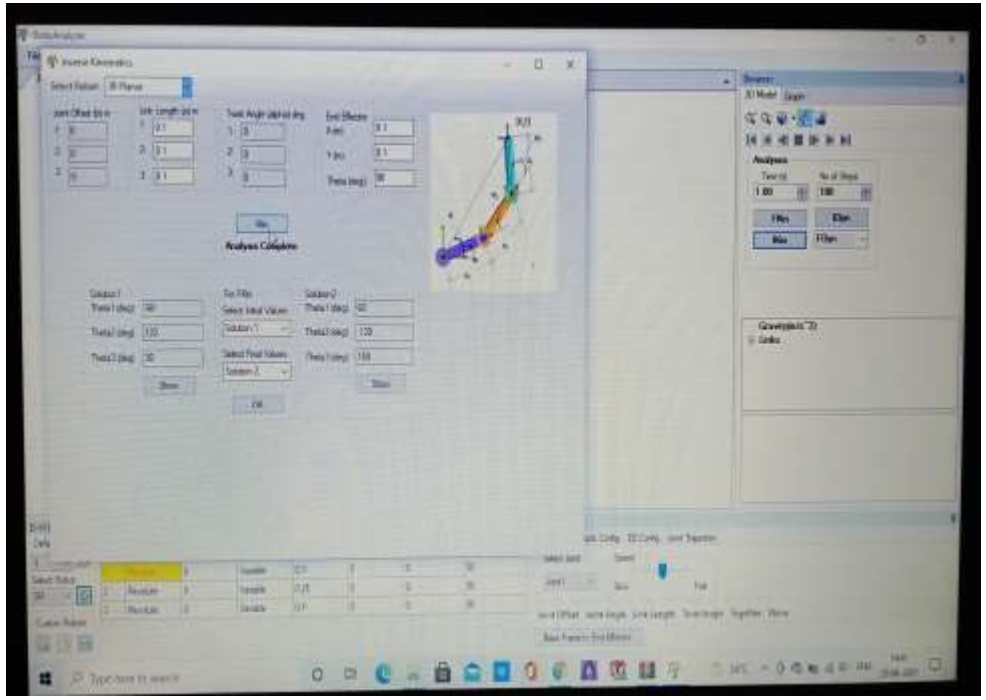
Robot kinematics: forward and inverse

Forward kinematics

- Motion of links in without considering the forces.
- Joint to Cartesian space, end-effector configuration in base frame



Inverse kinematics



- Joint jogging is the movement shown in vrm through the joints in theta.
- Cartesian control is the movement shown in vrm through the Cartesian coordinates of end of joints.

Final submission of name in vrm