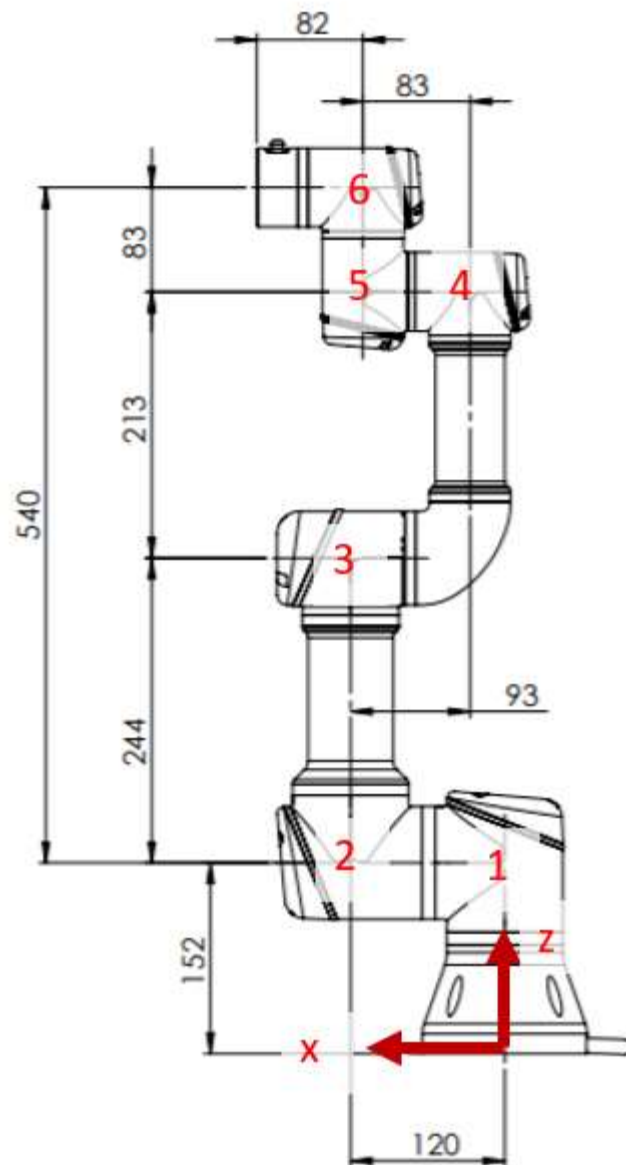Molly Sturgis (sturgis3)

Utsav Kawrani (kawrani2)

Schematic of UR3 Robot:

Above is a schematic of the UR3 robot, used to derive forward kinematics. This schematic identifies the joints and shows the distances between joint centers. This was used to derive the axis and positions of each joint. This can be seen below.

a1=[0,0,-1]
q1=[0,0,0.152]

a2=[-1,0,0]
q2=[0.12,0,0.152]

a3=[-1,0,0]
q3=[0.12,0,0.396]

a4=[-1,0,0]
q4=[0.027,0,0.609]

a5=[0,0,1]
q5=[0.11,0,0.609]

a6=[-1,0,0]
q6=[0.11,0,0.692]

M=[1, 0, 0, -0.192], [0 ,1 ,0 , 0.000], [0, 0, 1, 0.692], [0 ,0 ,0 ,1]