19/ febrero /2019

Parámetros Denavit-Hartenberg

Robot antropomórfico (proyecto)

Práctica 1

8°B T/M

ASIGNATURA: CINEMÁTICA DE ROBOTS

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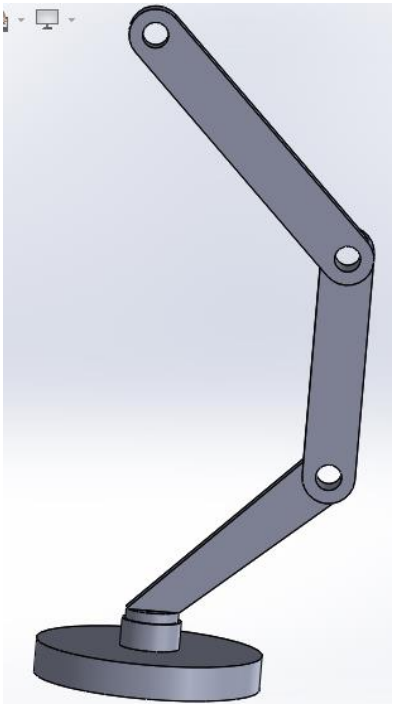
UNIVERSIDAD POLITÉCNICA DE LA ZONA METROPOLITANA DE GUADALAJARA | **Ingeniería mecatrónica**

Robot antropomórfico (3 GDL)



i	a_{i-1}	$\propto_{i-1}$	d_i	θ_i
1	0	-90	0	θ_1
2	L_1	0	0	θ_2
3	L_2	0	0	θ_3

$$\boldsymbol{T_1}^{\mathbf{0}} = \begin{bmatrix} C\theta_1 & -S\theta_1 & 0 & 0 \\ S\theta_1 & C\theta_1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$\boldsymbol{T_2}^{\mathbf{1}} = \begin{bmatrix} C\theta_2 & -S\theta_2 & 0 & L_1 \\ 0 & 0 & 1 & 0 \\ -S\theta_2 & -C\theta_2 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$\boldsymbol{T_3}^{\mathbf{2}} = \begin{bmatrix} C\theta_3 & -S\theta_3 & 0 & L_2 \\ S\theta_3 & C\theta_3 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$\boldsymbol{T_3}^{\mathbf{0}} = \boldsymbol{T_1}^{\mathbf{0}}\boldsymbol{T_2}^{\mathbf{1}}\boldsymbol{T_3}^{\mathbf{2}} =$$

[

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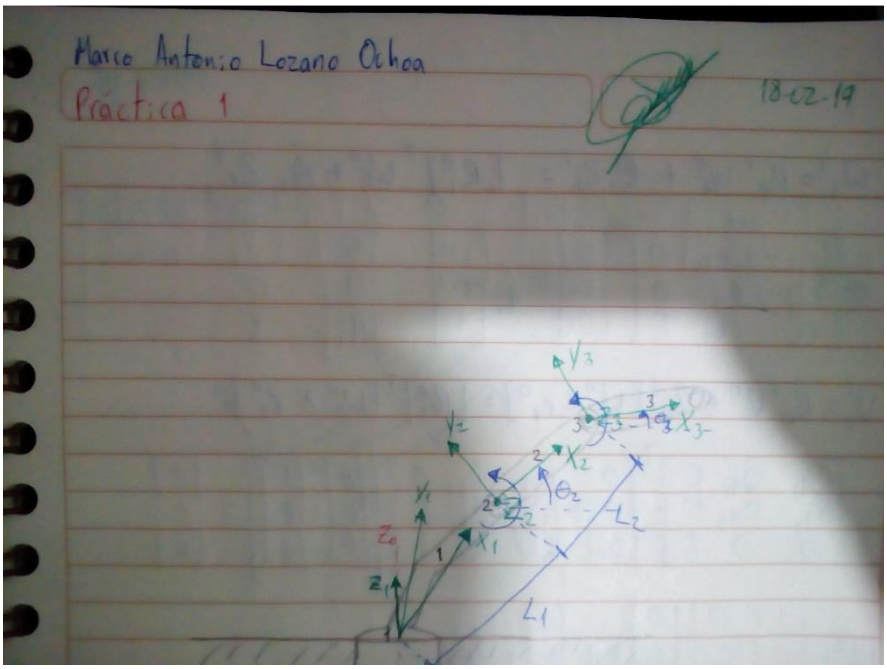
cos(t1)*cos(t2)*cos(t3) - cos(t1)*sin(t2)*sin(t3), - cos(t1)*cos(t2)*sin(t3) - cos(t1)*cos(t3)*sin(t2), -sin(t1), L1*cos(t1) + L2*cos(t1)*cos(t2)
cos(t2)*cos(t3)*sin(t1) - sin(t1)*sin(t2)*sin(t3), - cos(t2)*sin(t1)*sin(t3) - cos(t3)*sin(t1)*sin(t2),  cos(t1), L1*sin(t1) + L2*cos(t2)*sin(t1)
            - cos(t2)*sin(t3) - cos(t3)*sin(t2),                 sin(t2)*sin(t3) - cos(t2)*cos(t3),        0,                    -L2*sin(t2)
                                              0,                                                 0,        0,                             1
```

]

Evidencia


Marco Antonio Lozano Ochoa
Práctica 1
18-02-19
Y_3
Y_2
X_2
θ_2
L_2
Y_1
Z_0
X_1
Z_1
L_1