
Lab 1: Kinematic Characterization of the Lynx (MATLAB)

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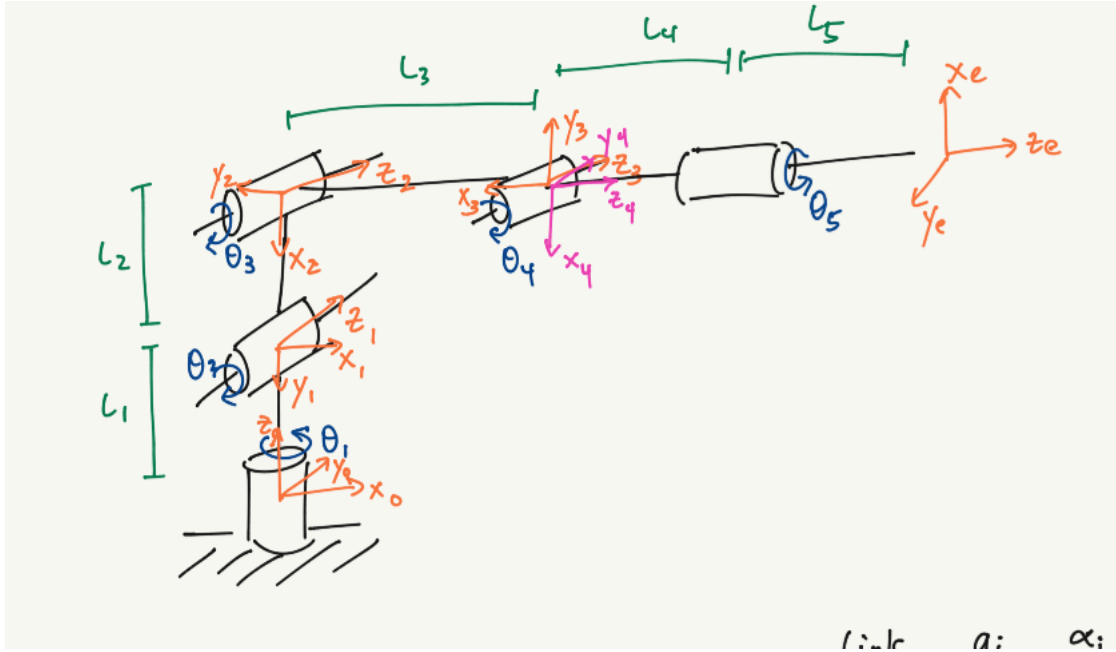


Figure 1: Revised symbolic representation

1.

2.

$$T_1^0 = \begin{bmatrix} 0 & 0 & 1 & 0mm \\ -1 & 0 & 0 & 0mm \\ 0 & -1 & 0 & 76.2mm \\ 0 & 0 & 0 & 1 \end{bmatrix} \quad (1)$$

$$T_2^1 = \begin{bmatrix} 0 & -1 & 1 & 0mm \\ 1 & 0 & 0 & 146.05mm \\ 0 & 0 & 1 & 0mm \\ 0 & 0 & 0 & 1 \end{bmatrix} \quad (2)$$

$$T_3^2 = \begin{bmatrix} -\frac{\sqrt{2}}{2} & -\frac{\sqrt{2}}{2} & 0 & -132.4588mm \\ \frac{\sqrt{2}}{2} & -\frac{\sqrt{2}}{2} & 0 & 132.4588mm \\ 0 & 0 & 1 & 0mm \\ 0 & 0 & 0 & 1 \end{bmatrix} \quad (3)$$

$$T_4^3 = \begin{bmatrix} 0 & 0 & -1 & 0mm \\ -1 & 0 & 0 & 132.4588mm \\ 0 & 1 & 0 & 0mm \\ 0 & 0 & 0 & 1 \end{bmatrix} \quad (4)$$

$$T_5^4 = \begin{bmatrix} 0 & 1 & 0 & 0mm \\ -1 & 0 & 0 & 0mm \\ 0 & 0 & 1 & 68mm \\ 0 & 0 & 0 & 1 \end{bmatrix} \quad (5)$$

$$T_5^4 = \begin{bmatrix} -1 & 0 & 0 & 0mm \\ 0 & \frac{\sqrt{2}}{2} & -\frac{\sqrt{2}}{2} & 84.3755mm \\ 0 & -\frac{\sqrt{2}}{2} & -\frac{\sqrt{2}}{2} & 14.5255mm \\ 0 & 0 & 0 & 1 \end{bmatrix} \quad (6)$$

3.

4.