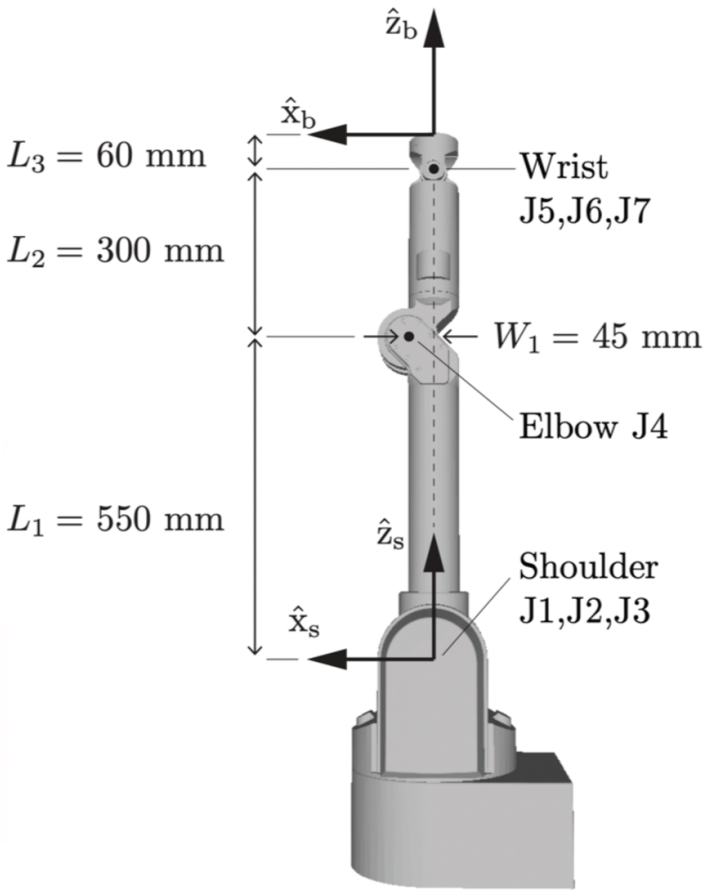


Joint axes 1, 3, 5, and 7 are aligned with $\hat{z}_s$.
Joint axes 2, 4, and 6 are out of the page.

rank = 4 (axes 1, 2, 4, 6 are independent at $\theta = 0$)

$$J_b(0) = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 & 1 & 0 \\ 1 & 0 & 1 & 0 & 1 & 0 & 1 \\ 0 & L1+L2+L3 & 0 & L2+L3 & 0 & L3 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & W1 & 0 & 0 & 0 \end{bmatrix}$$

screw axes $\mathcal{B}_i$

i	ω_i	v_i
1	$(0,0,1)$	$(0,0,0)$
2	$(0,1,0)$	$(L_1+L_2+L_3,0,0)$
3	$(0,0,1)$	$(0,0,0)$
4	$(0,1,0)$	$(L_2+L_3,0,W_1)$
5	$(0,0,1)$	$(0,0,0)$
6	$(0,1,0)$	$(L_3,0,0)$
7	$(0,0,1)$	$(0,0,0)$