

$$J = \begin{bmatrix} R_{0 \leftarrow 2b} \cdot J_3(\theta_3, \mathbf{p}_3) \\ R_{0 \leftarrow 2a} \cdot J_{2b}(\theta_{2b}, X_{2b \leftarrow 3} \cdot \mathbf{p}_3) \\ R_{0 \leftarrow 1} \cdot J_{2a}(\theta_{2a}, X_{2a \leftarrow 3} \cdot \mathbf{p}_3) \\ J_1(\theta_1, X_{1 \leftarrow 3} \cdot \mathbf{p}_3) \end{bmatrix}^T$$

$$\mathbf{d} = \begin{bmatrix} d_3 \\ d_{2b} \\ d_{2a} \\ d_{1b} \end{bmatrix}$$

Note: Each row in the above should be transposed....

$$d\mathbf{p} = J \cdot d\mathbf{d}$$