

$$T(\mathbf{q}, t) = \begin{pmatrix} \mathbf{t}(M^{*-1}(t)M(\mathbf{q})) \\ u_{\theta}(R^{*-1}(t)R(\mathbf{q})) \end{pmatrix}$$

$$J = \frac{\partial T}{\partial \mathbf{q}}$$

