

Criteria Optimization

$$\frac{\|\dot{\Theta}(t)\|_E^2}{2}$$

Path Tracking

$$\mathcal{M}(\phi(t), \theta(t))\Theta = \dot{\mathbf{r}}_m(t) \rightarrow \dot{\mathbf{r}}_{md}(t)$$

Physical Constraint

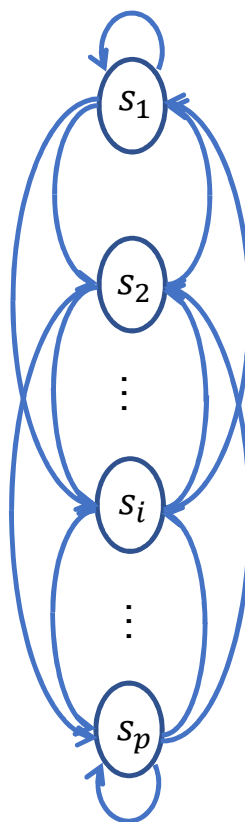
$$\dot{\Theta}^- \leq \dot{\Theta}(t) \leq \dot{\Theta}^+$$

Vector Valued

Error Function

$$\varepsilon(t) = \begin{bmatrix} \varepsilon_1(t) \\ \varepsilon_2(t) \\ \vdots \\ \varepsilon_p(t) \end{bmatrix}$$

RNN Model



**Control
Signal**

$$\dot{\Theta}(t)$$

Plant

Mobile Robot

