

$$\begin{aligned}
p(\boldsymbol{x}; \theta) &= p_{\mathbf{u}}(g(\boldsymbol{x}; \theta)) \underbrace{\prod_{g_i \in \mathcal{S}_n} |\det(\mathbf{J}_{g_i}(\boldsymbol{x}_{i-1}; \theta))|}_{\text{Unnormalized Density}} \underbrace{\prod_{g_i \in \mathcal{S}_l} |\det(\mathbf{J}_{g_i}(\theta))|}_{\text{Norm. Const.}}
\end{aligned}$$

$$\begin{aligned}
&\triangleq \underbrace{\exp(-E(\boldsymbol{x}; \theta))}_{\text{Unnormalized Density}} \underbrace{Z^{-1}(\theta)}_{\text{Norm. Const.}}
\end{aligned}$$