

$$\pi(\cdot;\theta_\pi):(\mathbb{R}^l)^n\rightarrow\mathbb{R}^d$$

$$\psi(\mathbf{p};\theta_\psi)=\psi(\mathbf{p};\theta_\psi,\theta_\pi)=\pi(\Phi(\mathbf{p};\theta_\Phi);\theta_\pi)\in\mathbb{R}^d$$