## Normalizing Flow Applications

## MAP Optimization with NFs

## Maximum a posteriori (MAP):

$$\mathbf{x}_{MAP} = \underset{\mathbf{x}}{\operatorname{argmax}} p(\mathbf{x} \mid \mathbf{y})$$

$$\operatorname{argmax} p(\mathbf{y} \mid \mathbf{x}) p(\mathbf{x}) = \underset{\mathbf{x}}{\operatorname{argmax}} log p(\mathbf{y} \mid \mathbf{x}) + log p(\mathbf{x})$$