

# MAP Optimization with NFs

Maximum a posteriori (MAP):

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

$$\operatorname{argmax}_{\mathbf{x}} p(\mathbf{y} | \mathbf{x}) p(\mathbf{x}) = \operatorname{argmax}_{\mathbf{x}} \log p(\mathbf{y} | \mathbf{x}) + \log p(\mathbf{x})$$

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$$\operatorname{argmin}_{\mathbf{x}} \frac{1}{2} \|A\mathbf{x} - \mathbf{d}\|_2^2 + \log R(\mathbf{x})$$