MAP Optimization with NFs

Maximum a posteriori (MAP):

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

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

If noise is Gaussian then the data likelihood is given by ℓ_2 -norm data misfit

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

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argmin
$$\frac{1}{2} ||A\mathbf{x} - \mathbf{d}||_2^2 + \log R(\mathbf{x})$$
 How do you choose regularization?