



A Venn diagram consisting of two nested, horizontally-oriented ellipses. The outer ellipse is filled with a bright yellow color and is labeled "Target Space" in a black serif font at its top center. The inner ellipse is filled with a solid orange color and is labeled "Hypothesis Space" in a black serif font at its bottom center. The inner ellipse is entirely contained within the outer ellipse, illustrating that the hypothesis space is a subset of the target space.

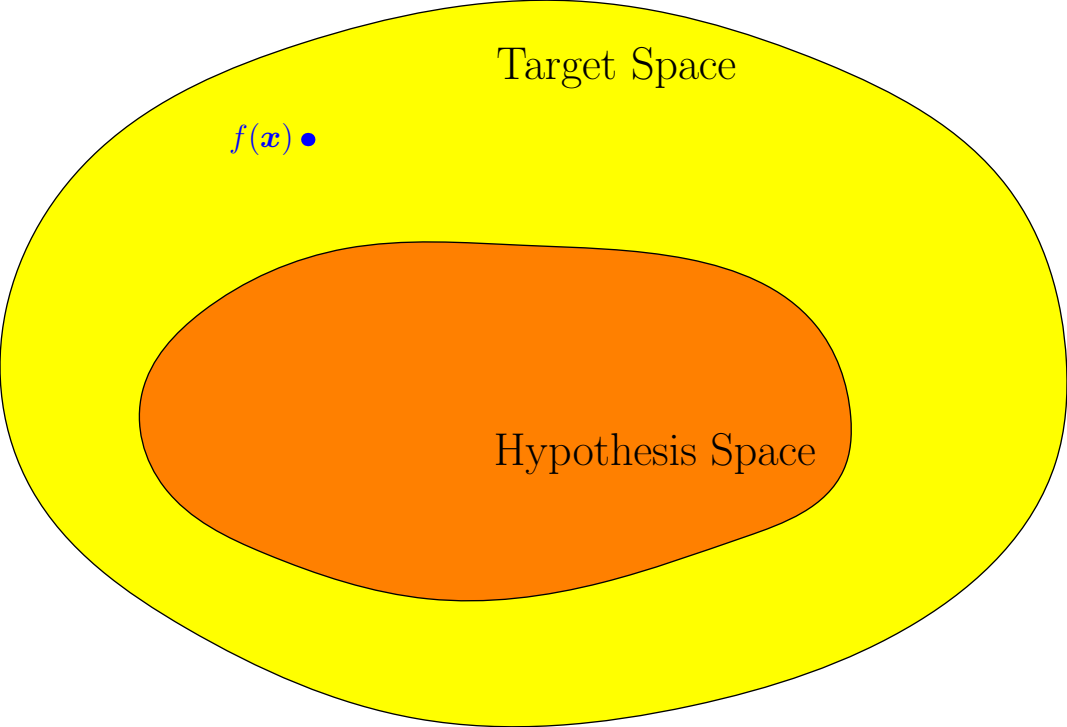
Target Space

Hypothesis Space

Target Space

$f(\boldsymbol{x})$ •

Hypothesis Space

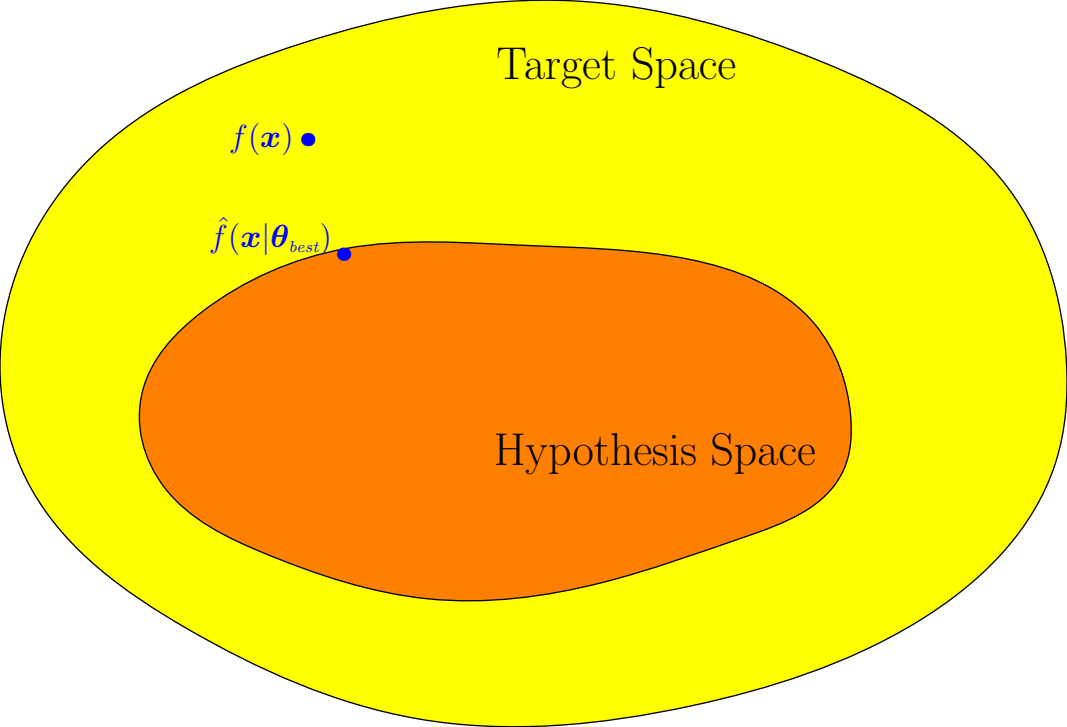


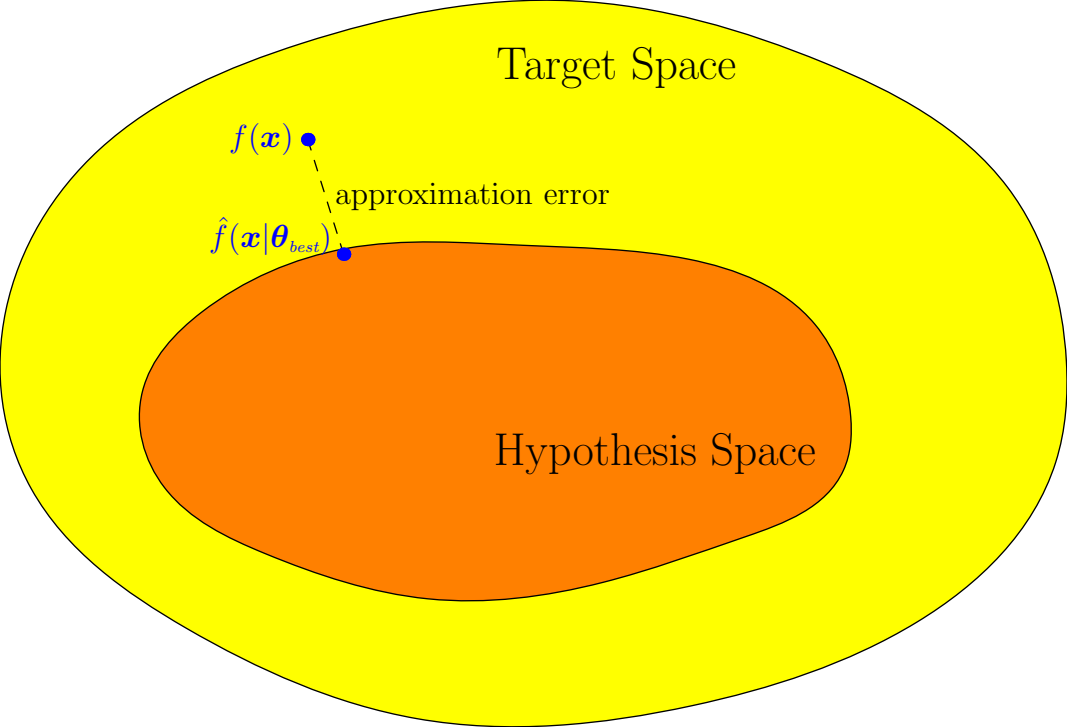
Target Space

$f(\mathbf{x})$ •

$\hat{f}(\mathbf{x}|\boldsymbol{\theta}_{best})$ •

Hypothesis Space





Target Space

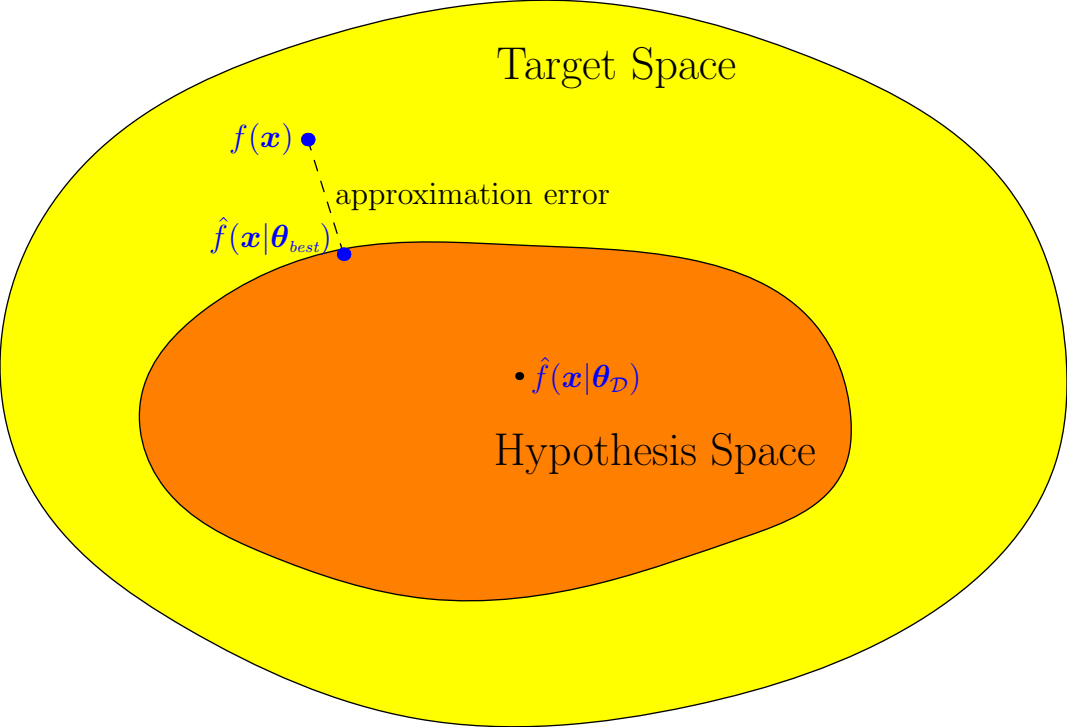
$f(\mathbf{x})$

$\hat{f}(\mathbf{x}|\boldsymbol{\theta}_{best})$

approximation error

$\bullet \hat{f}(\mathbf{x}|\boldsymbol{\theta}_{\mathcal{D}})$

Hypothesis Space



Target Space

$$f(\mathbf{x})$$



approximation error

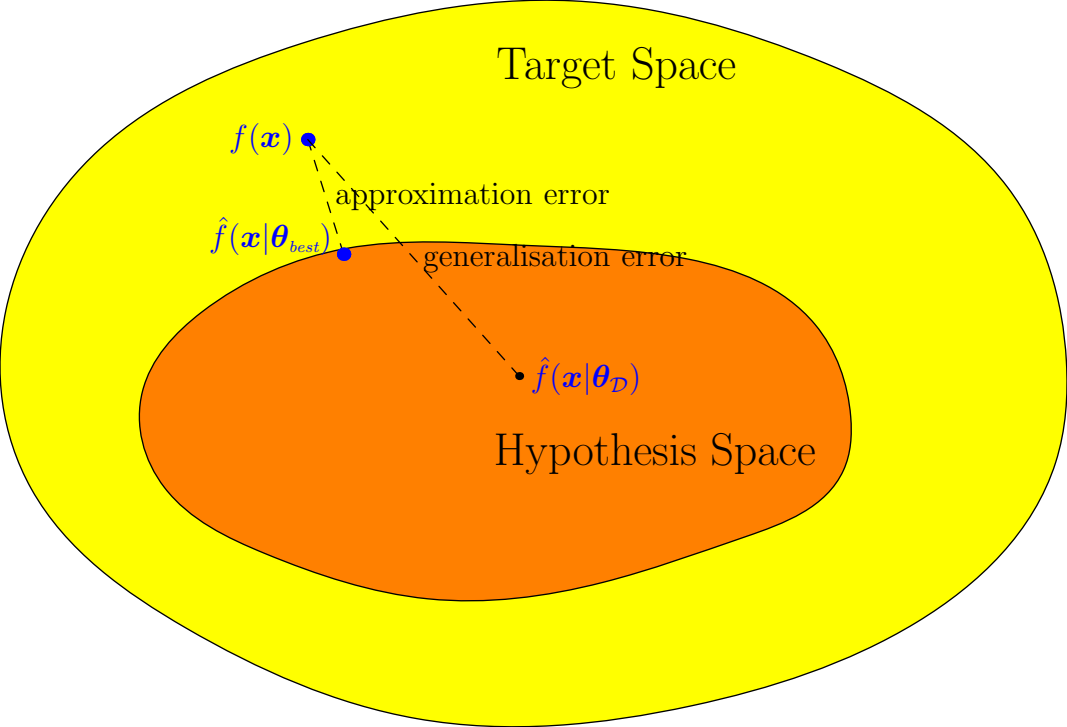
$$\hat{f}(\mathbf{x}|\boldsymbol{\theta}_{best})$$



generalisation error

$$\hat{f}(\mathbf{x}|\boldsymbol{\theta}_{\mathcal{D}})$$

Hypothesis Space



Target Space

$$f(\mathbf{x})$$

approximation error

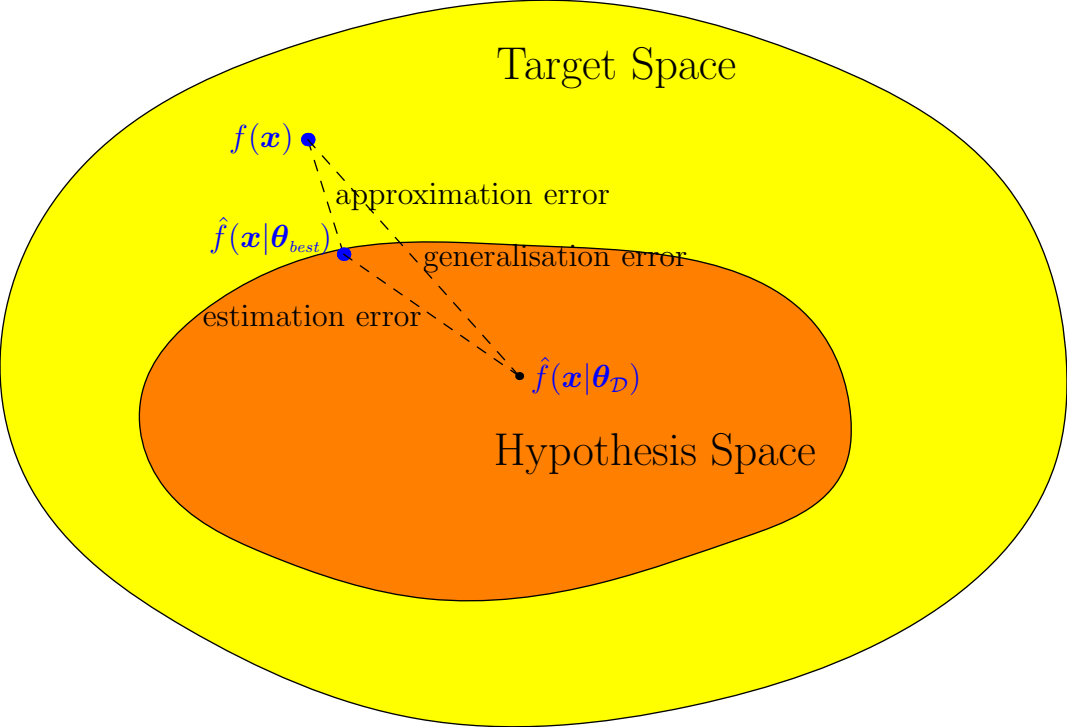
$$\hat{f}(\mathbf{x}|\boldsymbol{\theta}_{best})$$

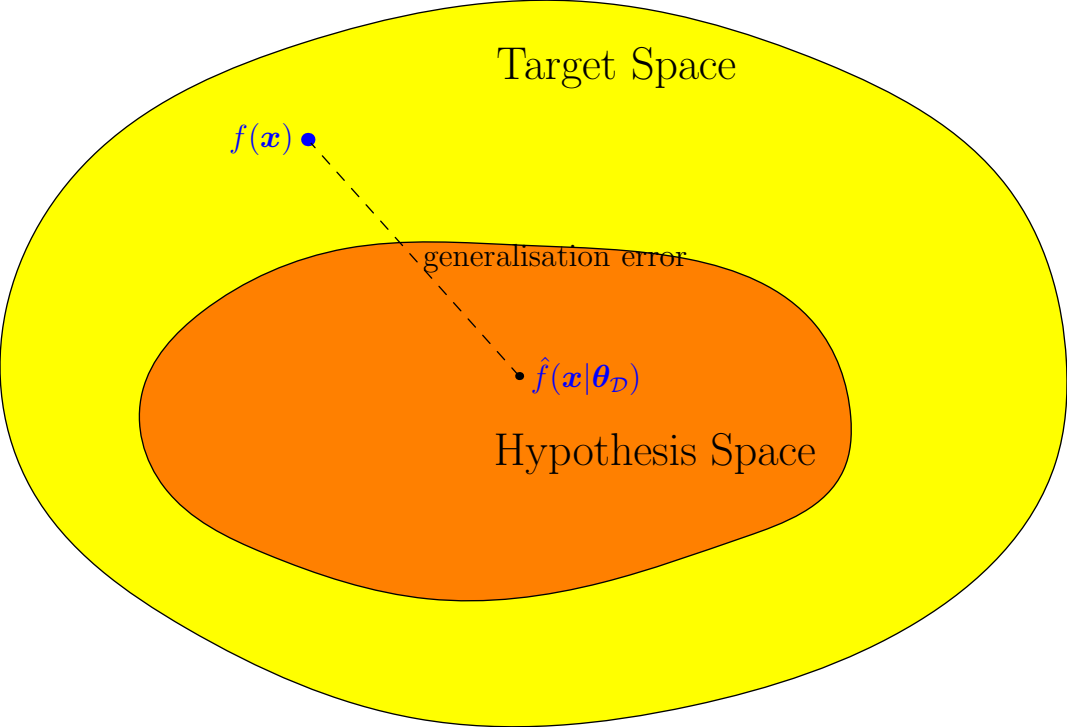
generalisation error

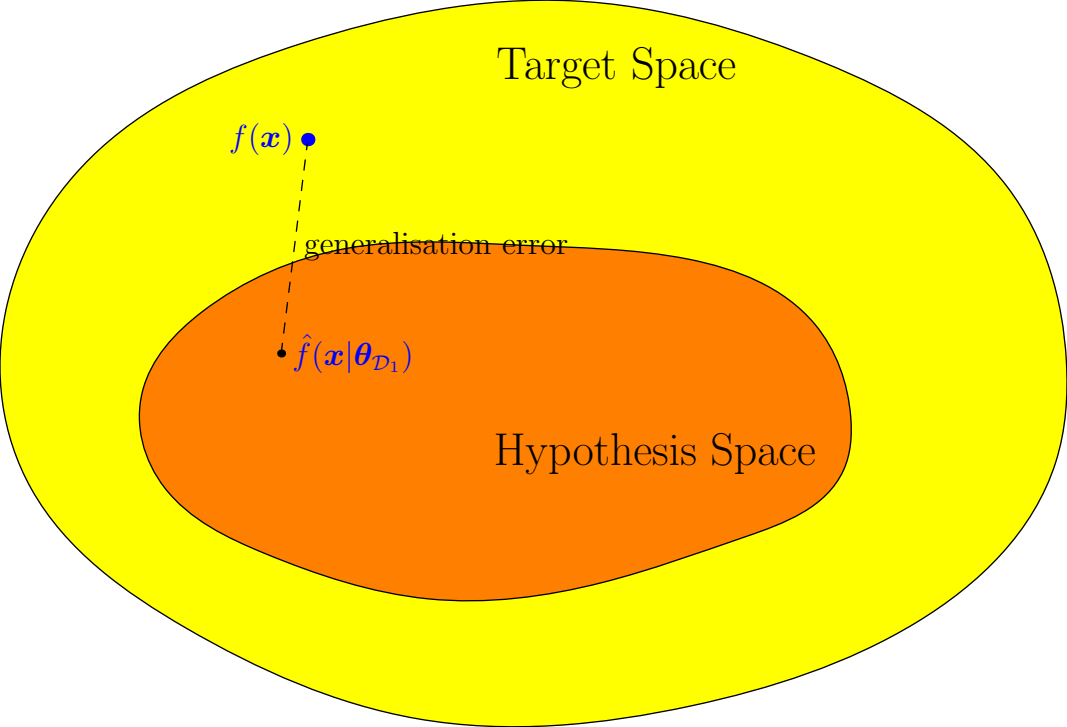
estimation error

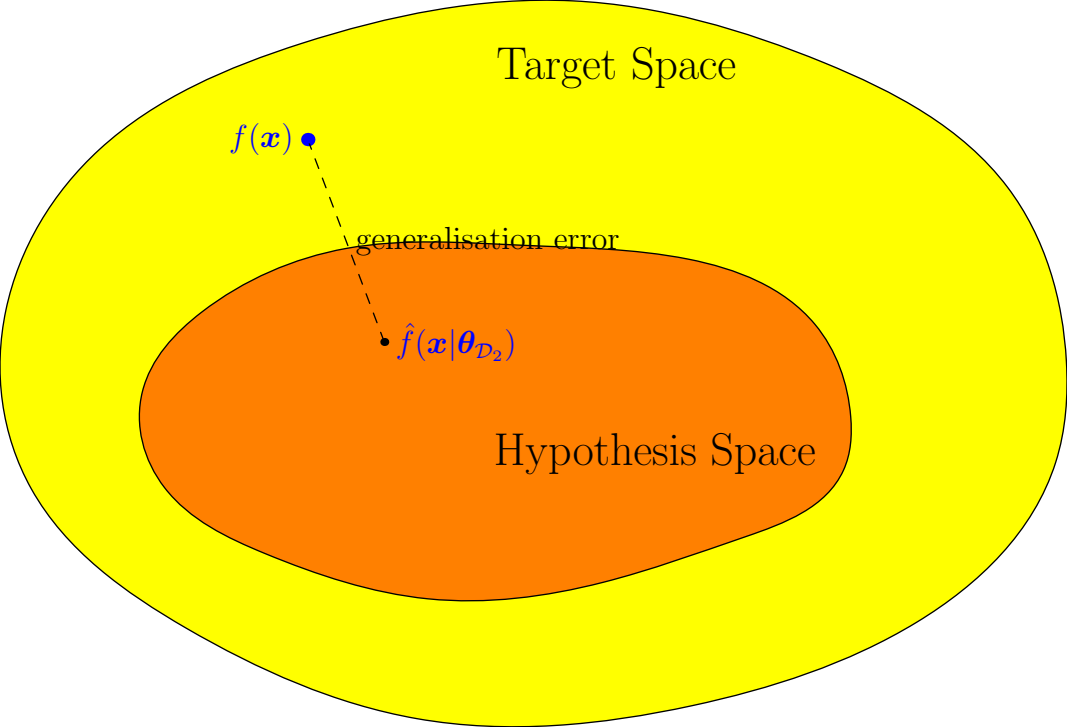
$$\hat{f}(\mathbf{x}|\boldsymbol{\theta}_{\mathcal{D}})$$

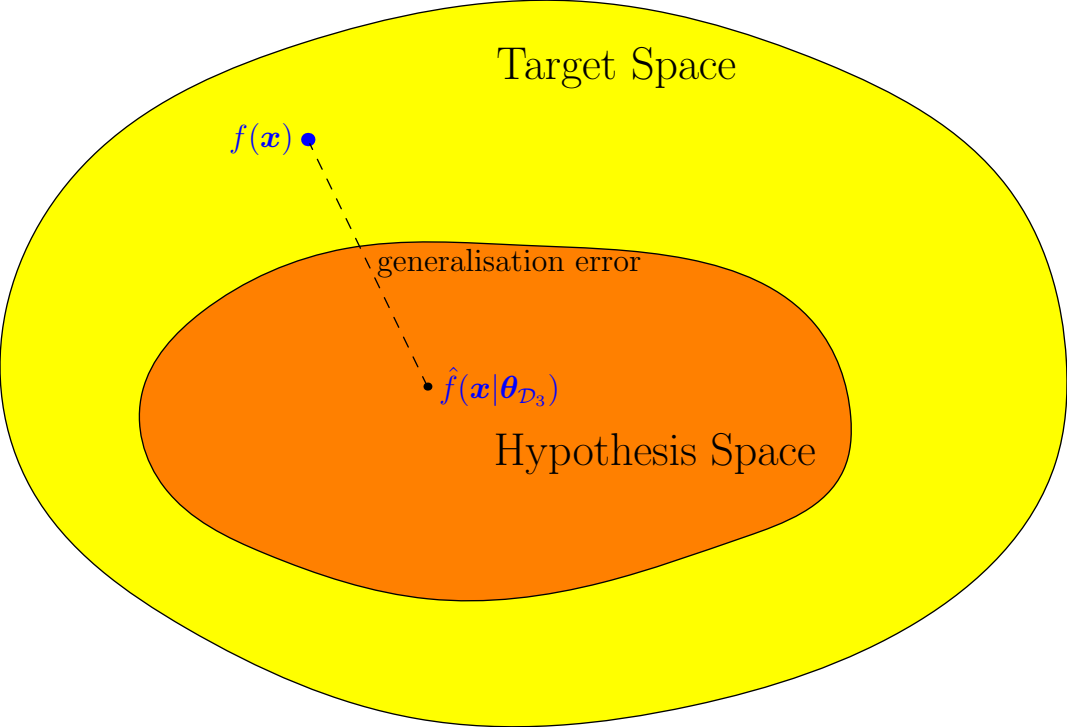
Hypothesis Space

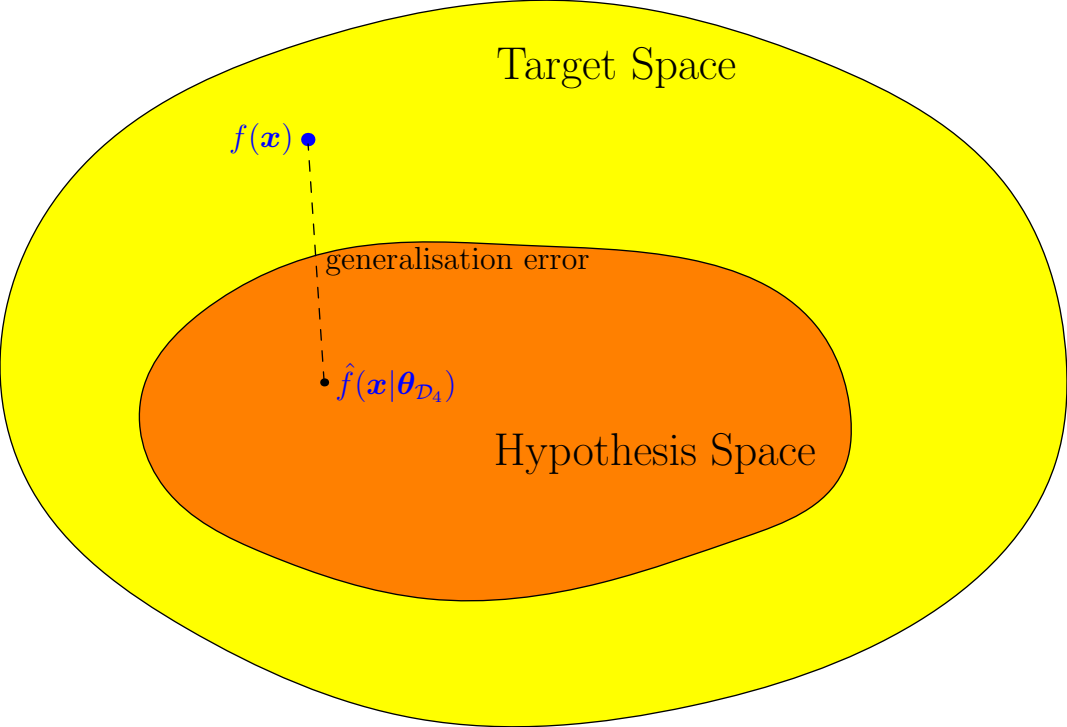


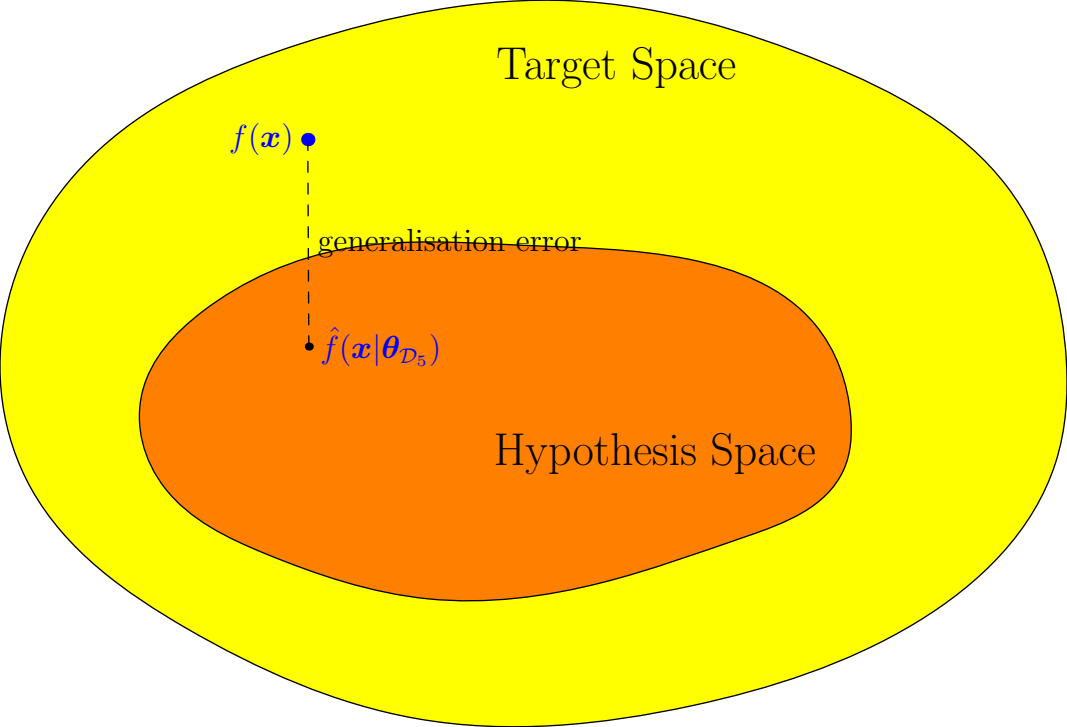


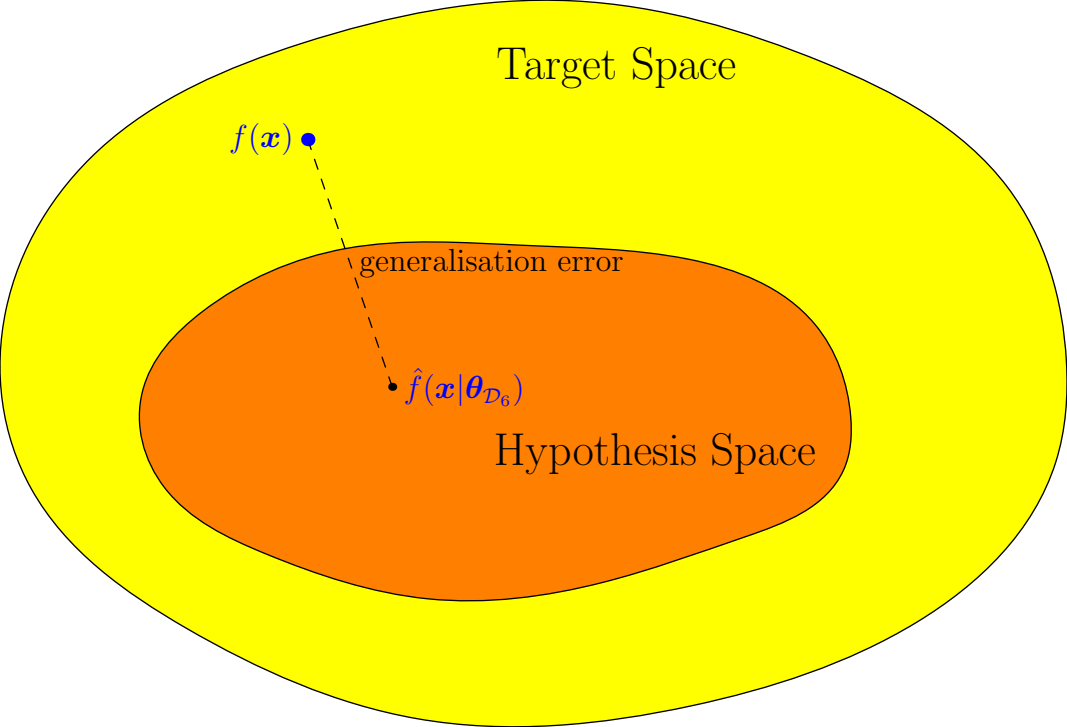


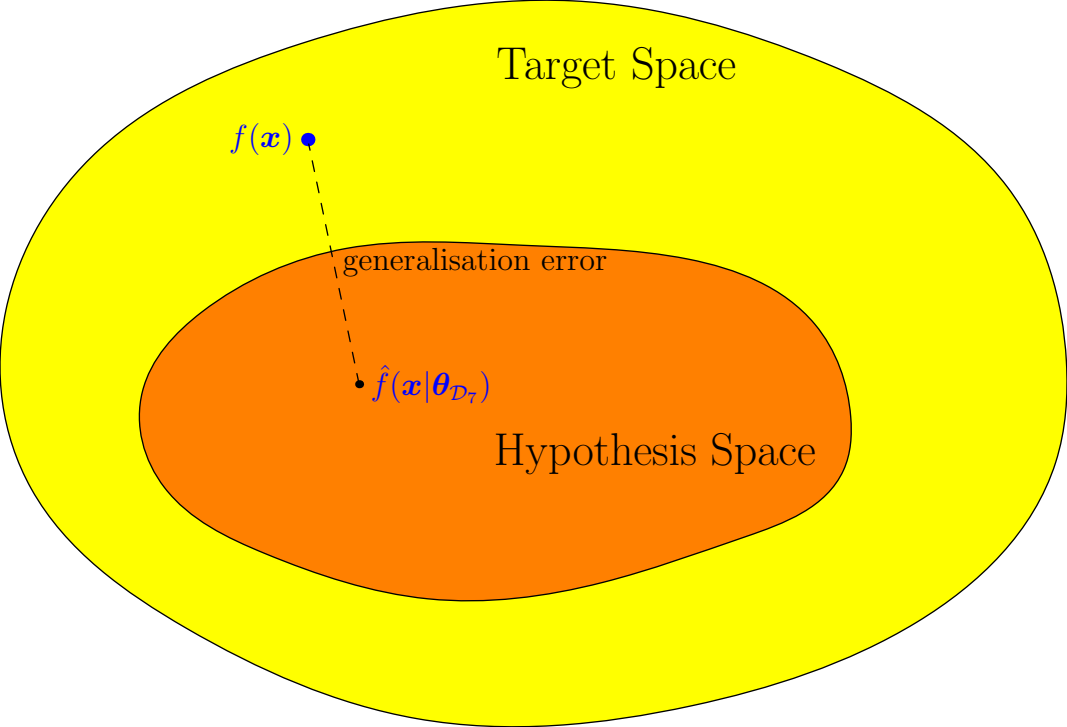


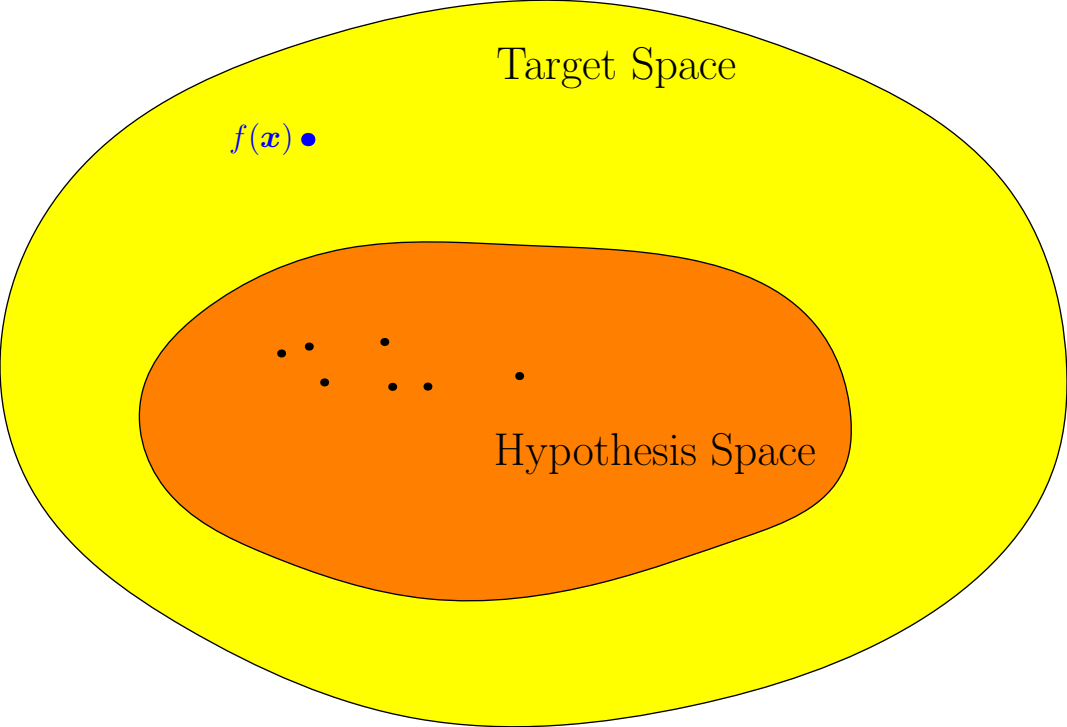












Target Space

$f(\mathbf{x})$ •

• • •
× mean machine
• • •

Hypothesis Space

