

Exercise: Reproducing kernel property

Prove that

$$\langle \kappa(\mathbf{x}_1, \cdot), \kappa(\mathbf{x}_2, \cdot) \rangle_{\mathcal{H}} = \kappa(\mathbf{x}_1, \mathbf{x}_2) \quad (1)$$

where $\kappa(\cdot)$ is a Mercer kernel.