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Correction to Arias *et al.* [1]

In [1] we mistakenly claimed that [3] used the following estimate of the kernel vector:

$$\hat{k}(x, x_i) = \frac{1}{2}(2 - d_{\mathcal{H}}(\psi, \varphi(x_i))^2) \quad i = 1, \dots, n. \quad (1)$$

This expression follows from incorrectly assuming unit norm for ψ , point for which we are searching the pre-image (assumption made in [2]). More details on why this unit norm assumption is incorrect, see [1] (where we do not make such assumption).

Instead, the estimate used in [3] is given by:

$$\hat{k}(x, x_i) = \frac{1}{2}(1 + \|\psi\|^2 - d_{\mathcal{H}}(\psi, \varphi(x_i))^2) = \langle \psi, \varphi(x_i) \rangle \quad i = 1, \dots, n. \quad (2)$$

We apologize for this mistake. In the following section we repeat the comparisons shown in [1] with this correction.

Note that (2) is a straightforward application of the inner-product property of the kernel to ψ . However, this property in general holds in the case that ψ has an exact pre-image. The authors in [2] justify this approach by assuming that $\phi(x) \approx \psi$. In [1] we give a more formal justification by using the Nyström extension to approximate the mapping. Refer to the mentioned paper for more details.

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