7. The Radial Basis Kernel
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Calculating the Radial Basis Kernel

1/1 point (graded)
Recall from the video above that the **radial basis kernel** K is given by

$$K(x, x') = e^{-\frac{1}{2}||x-x'||^2}$$

Let

$$\begin{aligned} x &= [1,0,0]^T \\ x' &= [0,1,0]^T. \end{aligned}$$

Compute the radial basis kernel $K(x, x')$.

- [ ] $\frac{\sqrt{2}}{2}$
- [x] e^{-1}
- [ ] $e^{-\frac{1}{2}}$
- [ ] $e^{\frac{\sqrt{2}}{2}}$

Solution:

$K(x, x') = e^{-\frac{1}{2}||x-x'||^2} = e^{-\frac{1}{2}(2)} = e^{-1}$.

Submit You have used 1 of 2 attempts

Answers are displayed within the problem

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?	Overfitting with Radial Basis Kernel Does Radial Basis Kernel turn to overfit as it's so flexible that it can fit even all noises?	1
?	Could anyone explain what boostrap sample mean? I heard about the term boostrap sample many times but still do not understand what does it ...	1
☑	How do I get the final value for theta when using this kernel? Since it is infinite-dimensional, in this case.	7
💬	Why Radial Basis Kernel works This helped me to understand how it works: https://www.youtube.com/watch?v=Z2_yh2sice8...	1
💬	Additional Materials Is there any additional materials on non-linear classifier for someone with poor mathematica...	3
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?	Is this a valid kernel?	2
?	SVM vs. Kernel functions For a given non-linear classification task, when should we use Kernel perceptron and when s...	2
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What does the radial basis kernel gives us, it seems that it neither give us alpha_j's nor theta^(i) ? 4

Transcription errors

3:04 "algorithm" instead of "[?applet. ?]" 5:32 "So previously, we discussed how perceptron al... 1

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