

COMS 4771 Spring 2017 HW5 Prob2 Solution

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The kernel function can be in form of the polynomial kernel.

```
def mykernel(X, Y):  
    return np.power(2*np.dot(X, Y.T) + 1,3)
```

The above kernel function has 5-fold cross validation error rate 0.1067 on training data, and test error rate 0.1073 using our hidden test data.

Reference: Müller, Klaus-Robert, et al. "An introduction to kernel-based learning algorithms." Handbook of Neural Network Signal Processing. CRC Press, 2001.