

The true risk of a kNN algorithm

- a. Always decreases when  $k$  grows.
- b. Is lower bounded by  $\epsilon_B$ .
- c. Tends towards 0 when the number of training examples tends to infinity.

The optimal predicted label  $y^*$  of the Bayesian model is given by:

- a.  $\arg \max_c p(x|y_c) \cdot p(x).$
- b.  $\arg \max_c p(y_c|x) \cdot p(y_c).$
- c.  $\arg \max_c p(x|y_c) \cdot p(y_c).$

What is the best speed-up procedure of the NN calculation among the following three:

- a. The triangle inequality of the distance function.
- b. The growth of the number of training examples.
- c. The deletion of the outliers.

The decision boundaries around a training example  $x$  of the 1-nearest neighbor classifier are given by

- a. The boundaries of the Voronoi cell of  $x$ .
- b. The boundaries of Delaunay triangle of  $x$ .
- c. The boundaries of the sphere centered at  $x$ .

What is the definition of the Precision  $P$ ?

a.  $P = \frac{TP}{TP+FP}$

b.  $P = \frac{TP}{TP+FN}$

c.  $P = \frac{TN}{TP+TN}$

What is the value of the  $F$ -measure of a classifier which would always predict the negative class?

- a.  $F = 1$
- b.  $F = 0$
- c.  $F = -1$

What does the Recall mean?

- a. The part of the positive examples that are missed by the classifier.
- b. The part of the negative examples that are retrieved by the classifier.
- c. The part of the examples that are predicted as positive and that are actual positives.