K-Nearest Neighbors (KNN)

* **Simple, but a very powerful classification algorithm**
* **Classifies based on a similarity measure**
* **Non-parametric**
* **Lazy learning**
* **Does not “learn” until the test example is given**
* **Whenever we have a new data to classify, we find its K-nearest neighbors from the training data**

**Example**

* **Training dataset consists of k-closest examples in feature space**
* **Feature space means, space with categorization variables (non-metric variables)**
* **Learning based on instances, and thus also works lazily because instance close to the input vector for test or prediction may take time to occur in the training dataset**