



# Support Vector Machine

- In  $n$ -dimensions points are divided by a plane, instead of a line
- SVMs can be used separators that are curve, not necessarily linear, by transforming points before classification
  - Transformation functions may be non-linear and are called kernel functions
  - Separator is a plane in the transformed space, but maps to curve in original space
- There may not be an exact planar separator for a given set of points
  - Choose plane that best separates points
- $N$ -ary classification can be done by  $N$  binary classifications
  - In class  $i$  vs. not in class  $i$ .