

Consequences of Margins Theory

- predicts good generalization with no overfitting if:
 - weak classifiers have **large edges** (implying **large margins**)
 - weak classifiers not too complex relative to size of training set
- e.g., boosting decision trees resistant to overfitting since trees often have large edges and limited complexity
- overfitting **may** occur if:
 - small edges (underfitting), or
 - overly complex weak classifiers
- e.g., heart-disease dataset:
 - stumps yield small edges
 - also, small dataset