

Discussion with Vivek: Feb 23

Praful Agrawal, Michael Matheny

March 13, 2015

1 Minutes

- Check the feasibility of the problem by working through some constrained scenario.
- Begin with boolean features and binary classification.
- Write down the set of hypotheses which are not affected by the permutation of features such as conjunctions and disjunctions.

2 Feasibility Study

2.1 Boolean Features and Binary Classification

Given:

- Feature vector $f \in \{0, 1\}^n$,
- Label $l \in \{0, 1\}$,
- Hypothesis space (H) - All boolean functions, $|H| = 4^n$,

Goal: Identify the sets H_1 and H_2 such that,

$$l_1 = H_1(f) = l_{true}$$

$$H_2 = H - H_1$$

Set H_1 :

1. Conjunction of all n variables
- 2.
- 3.