

## Boosting as a Game

- Mindy (row player)  $\leftrightarrow$  booster
- Max (column player)  $\leftrightarrow$  weak learner
- matrix **M**:
  - row  $\leftrightarrow$  training example
  - column  $\leftrightarrow$  weak classifier
  - $\mathbf{M}(i, j) = \begin{cases} 1 & \text{if } j\text{-th weak classifier correct on } i\text{-th training example} \\ 0 & \text{else} \end{cases}$
  - encodes which weak classifiers correct on which examples
  - huge # of columns — one for every possible weak classifier